SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[*The* MINING JOURNAL *is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.*]

No. 2102.—VOL. XLV. LONDON, SATURDAY, DECEMBER 4, 1875. PRICE (WITH THE JOURNAL) SIXPENCE. PER ANNUM, BY POST, £1 4s.

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SPECIALITIES ARE ALL SIZES OF
Steam Pumps, Shipbuilders' Tools,
BAR SHEARS.
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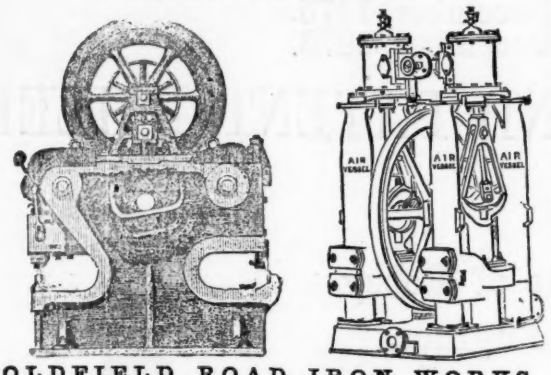

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For COLLIERIES, MINERAL, and CONTRACTORS' RAILWAYS, of the best materials and workmanship, always in progress, from 6 to 14 in. cylinders, four or six wheels coupled, for cash, hire, or deferred payments.

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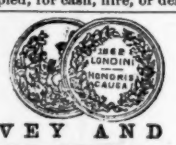

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ENGINEERS AND GENERAL MERCHANTS,
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MANUFACTURERS OF
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES the largest kind in use, SUGAR MACHINERY, MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.
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IN FIRST-RATE CONDITION, AT MODERATE PRICES.
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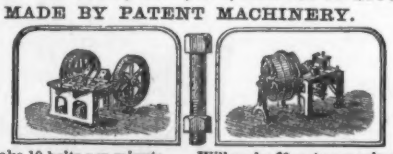
200 TONS OF BOLTS, NUTS, &C., ALWAYS IN STOCK,
MADE BY PATENT MACHINERY.



Will make 10 bolts per minute. Will make 60 nuts per minute.
Patentees and Makers of Special Machinery for Bolt, Spike, and Nut Manufacturing.

Over 60 of these Bolt and Spike-making Machines have been sold to Engineers, Railway Carriage and Wagon Builders, and Screw Bolt Manufacturers.
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They are the most durable.
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They contain the fewest parts.
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They act without shock *upon any of the operating parts.*
They work with a lower pressure than any other Rock Drill.
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They will give the longest feed without change of tool.
They work with long or short stroke at pleasure of operator.
The working parts are best protected against grit, and accidents.
The various methods of mounting are the most efficient.

FOR MOUNTAINOUS DISTRICTS
Without roads and inaccessible to heavy machinery, the McKean Drills and light special plant are thoroughly adapted.
Owners of Mines in such undeveloped regions have by their use the means of quickly testing and developing their Mineral Properties at small expense.

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Purchasing the McKean Rock Drills for export can have the fullest assurance of satisfying their correspondents abroad, and of opening new and profitable trade.

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N.B.—Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

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MESSRS. P. AND W. MACLELLAN, "CLUTHA IRONWORKS," GLASGOW.

Smithfield Show—Stand 102—Galleries.

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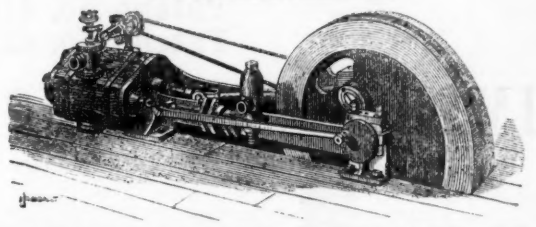

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PATENT "EXPRESS" ENGINES.
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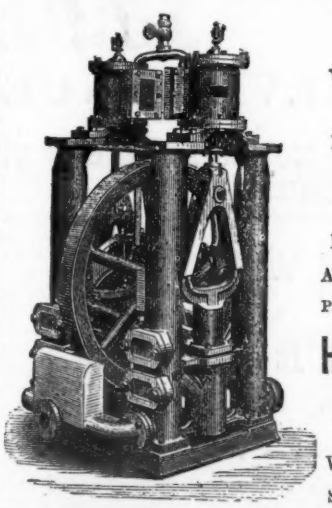
Makes a SPECIALITY of
Ore Dressing and Concentrating Machinery,
Over 500 in use, at Home and Abroad.
Manufacturer also of all descriptions of MINING MACHINERY, WATER-WHEELS, STAMPS, CRUSHING MILLS, &c. Drawings, Testimonials, Estimates, &c., on application.

IMPORTANT TO COLLIERY OWNERS.
PATENT STEAM PUMPS,



Awarded the only Prize Medal for Vertical Steam Pumps at the Pomona Show, Manchester, Nov., 1874.
FOR FORCING WATER OUT OF MINES, FEEDING BOILERS, AND ALL PUMPING PURPOSES.
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Are now selling Fire Goods of superior quality, manufactured from clay which has been subjected to the strongest tests, and proved to resist a greater amount of heat than any yet offered in the market.
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"THE ECONOMIC" COAL CUTTER,

FOR SIMPLICITY, ECONOMY, AND EFFICIENCY UNEQUALLED.

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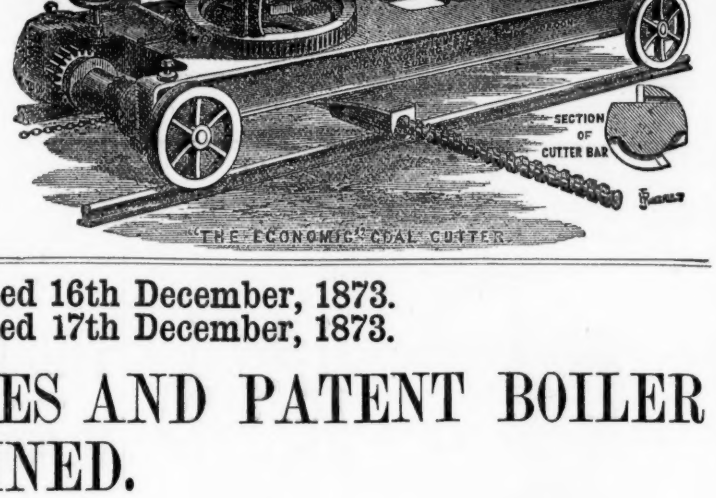
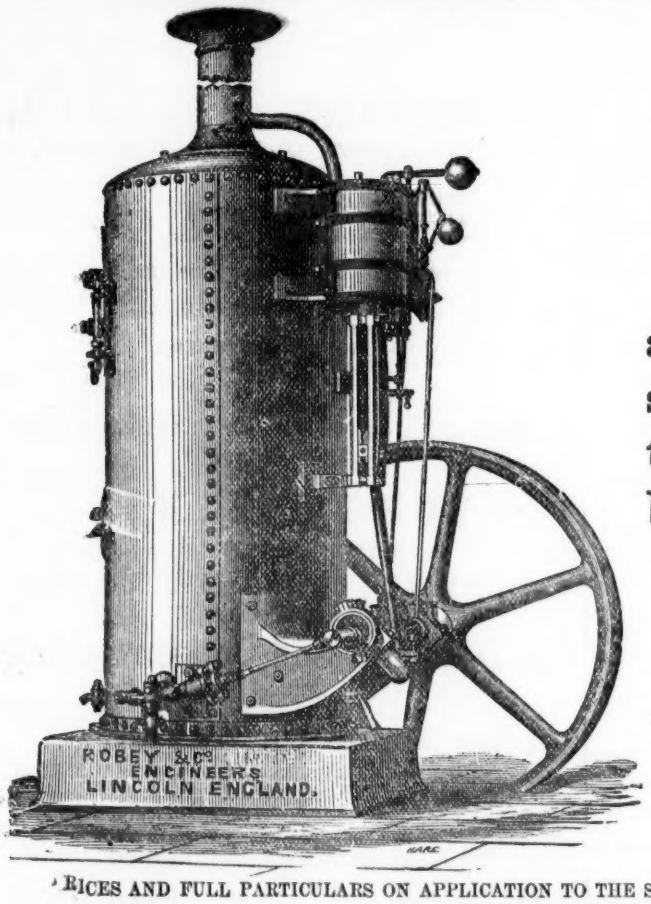


Patent No. 4136 - - - - - - Dated 16th December, 1873.
Patent No. 4150 - - - - - - Dated 17th December, 1873.

IMPROVED VERTICAL STEAM ENGINES AND PATENT BOILER COMBINED.



The Illustrations show one of Robey and Co.'s improved vertical Engines.

All these engines are supplied with Robey and Co.'s new patent vertical boiler, as per section illustrated, which has among others the following advantages over all vertical boilers yet produced:

PERFECT CIRCULATION OF THE WATER.

SEPARATION OF THE SEDIMENT.

GREAT DURABILITY.

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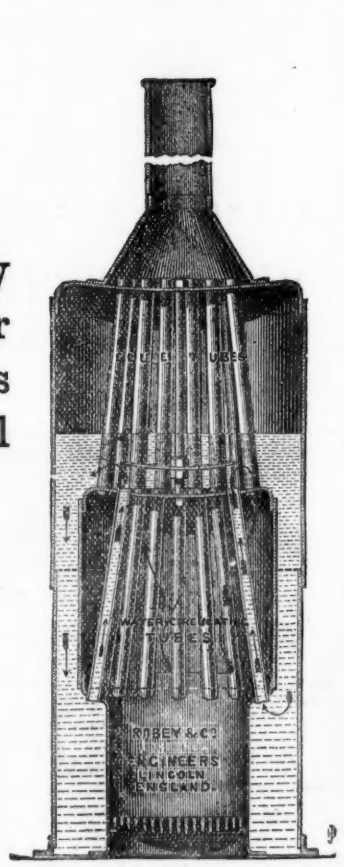

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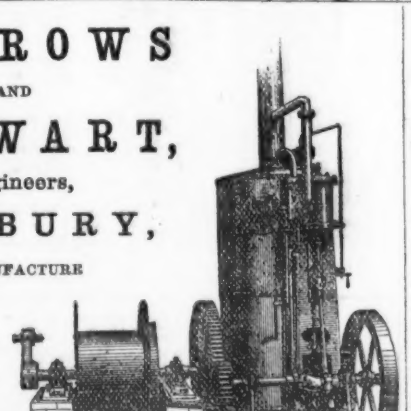
BARROWS AND STEWART,

Engineers,

BANBURY,

MANUFACTURE

Semi-Portable AND Vertical



STEAM ENGINES, FOR PIT SINKING

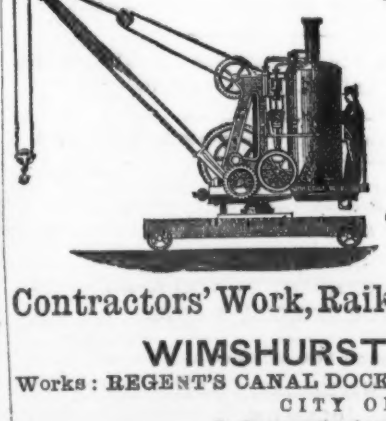
WINDING COAL, PUMPING, &c.

Also COMBINED MILLS and ENGINES for Grinding Slag, Sand, Mortar, &c.

Specifications and prices on applicat

CHAPLIN'S PATENT STEAM ENGINES AND BOILERS,

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



STEAM CRANES,

Portable or Fixed, for Railways, Wharves, &c., for unloading

COAL, BALLAST, &c.,

To hoist 15 cwts. to 30 tons.

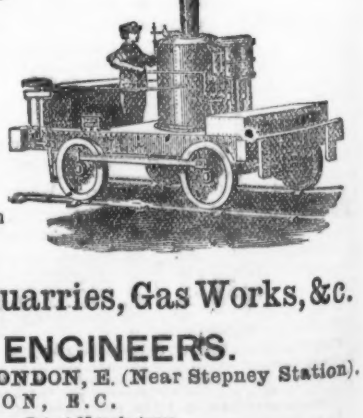
LOCOMOTIVES,

6 to 27-horse power. For Steep Inclines and Sharp Curves.

Gauge from 2 feet upwards.

Geared to draw very heavy weights in proportion to their power, and SPECIALLY

SUITABLE FOR



Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gas Works, &c.

WIMSHURST, HOLLICK, & CO., ENGINEERS.

Works: REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (Near Stepney Station).

CITY OFFICE: 34, WALBROOK, LONDON, E.C.

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

Original Correspondence.

MINING IN QUEENSLAND.

SIR,—The tin forwarded from the Warwick Railway Terminus for the month of August was—

	Tons.	c.	qrs.	lbs.
Stream tin	351	12	0	5
Ingots	5	15	3	3
Total	357	7	3	8

Being 114 tons less than the same month last year, and 915 tons less for the eight months than for the first eight months of 1874. Another matter worth mentioning is that in August, 1874, the first ingots were forwarded from Warwick—4½ tons; since which time, so far as the returns show, smelting on the field has been at a standstill, but the fact is there have been various furnaces erected (either six or seven), most of which have been failures, and several of the furnaces abandoned; but in one instance, at least, if not two, British perseverance has been crowned with success, and ingots will show different figures hereafter. As to the stock of tin held on the field, I have already often gone fully into the subject, and now give you two clippings, which will give your readers some local information, as well as bear me out in my previous statements. I may, however, add that there are over 300 tons stream tin held in stock in Warwick to be added to these figures, which will make the total nearer 2000 than 1000 tons. Prices nominal; sales here at 71*l.* to 71*l.* 10s. Bulimba brand refined.—*Sept.* 20. RESIDENT.

TAPPING NEW SOUTH WALES.—The rumour current in town during the past few weeks appears to have some truth in it, and if not wholly true is at least partly so. We refer to the statement that arrangements have been entered into with a Queensland carrying company to convey to Warwick—the nearest railway terminus township to the border—the tin ore of two or three large Vegetable Creek firms. The rumour is that, in accordance with this arrangement, some 45 teams are now *en route* from Warwick to the Vegetable. For the number of teams we are unable to vouch, as another rumour states the number to be about 25. But it is of little importance whether it is 25 or 45 so long as teams are coming, as we presume the number will be increased or diminished according to the demand. It is also stated that from the arrangements made the cost of carriage to Sydney *via* Brisbane will be 9s. per ton less than that now chargeable *via* Grafton. This is an important piece of information, and an item of intelligence which, if correct, will in a very short time materially detract from the trade of the Clarence and the revenue of New South Wales, for it is not feasible to suppose that tin producers of New England will continue to forward their produce to Sydney by way of Grafton when, by a less outlay for carriage, they can get it to market by another route; or is it sensible to presume that produce sent by this new route will be forwarded to Sydney? Will it not be cheaper and more expeditious to ship it direct from the port of Brisbane to the markets of Europe? But this will not be all. If it is cheaper to send our tin ore *via* Brisbane, it will also be cheaper to forward by the same route our wool or any other kind of produce we desire to export, and the same argument will hold good with regard to our imports. Expeditious transit and a reduction of 9s. per ton on carriage are important considerations, and will be a material inducement to make Brisbane the outlet to these vast and wealthy districts instead of Grafton, and this will be more particularly the case when the Queensland Railway is extended on to our border; but quicker travelling and a cheaper rate of carriage are not the only reasons why our importers and exporters should patronise this new route. For the past two or three months it has been simply impossible to get teamsters to go to or come from Grafton—even when exhorbitant consideration was offered; and this disagreeableness presents itself each winter season with increased severity. This is doubtless caused by the large accession to our population and the consequent additional traffic on the Newton Boyd Road. Therefore, considering our secluded position, it is a matter for congratulation to have a source of ingress and egress placed at our disposal. We understand that at the present time there is lying at Vegetable Creek from 900 to 1000 tons of tin ore. Now, there is little doubt but that the whole of this produce will be forwarded to Brisbane, and thence to England so that what New South Wales actually produced Queensland will get credit for, and reap any benefit accruing therefrom. In itself this may not be much, but the fact of thus introducing Queensland teamsters into the very heart of New England will be a first class means of directing the whole of the trade of this and the surrounding districts to the metropolis of the sister colony, and unless our Government take immediate and energetic steps to avert the impending catastrophe, the trade of the New England districts with Sydney will, in great measure, become an event of the past.—*Glen Innes Guardian.*

The following letter of our Stanthorpe correspondent will be read with interest in conjunction with that entitled "Tapping New South Wales." It will interest our Stanthope readers to know that we purpose shortly dispatching to them a special commissioner, to report upon the wants of the locality, the condition and prospects of its tin mines, the inducements for railway extension, the operation of the border customs, and the practicability of diverting a portion of the New England traffic from Grafton to Brisbane, *via* Warwick:—

In consequence of most of our carriers having determined to take a trip to Vegetable Creek, where there are large quantities of ore stored awaiting carriage to Sydney (more than 400 tons being held on two claims) carriage here has gone up from 5s. to 10s. per ton, which will still further depreciate the value of ore on our local mines, as the cost of carriage must come out of the pocket of the producer. This fact alone shows the necessity of pushing on the railway to the border. I hear that, in spite of the bad roads, the Queensland teamsters have agreed to carry the ore from Vegetable Creek to Warwick at such a price as will allow of its being landed in Sydney at a considerable saving, both in time and money, over the Grafton route; but I very much fear that if something is not at once done to improve the road between this and the border that we shall not reap the advantage of this trade, as the road from this to Jenners', where we junction with the New South Wales main road, is all but impassable, and has never had a penny spent on it for months, though the attention of the Government has been called to it over and over again; and Mr. Macalister promised when here that it should be put in as good order as the New South Wales roads, over which he had been travelling on his journey from Sydney here. We have now on our local mines nearly 300 tons ready for transit, as, in consequence of the late improvement in the market, many of our claimholders are anxious to get their ore to market. The price is now from 37*l.* to 40*l.* per ton.

NEW QUEBRADA COMPANY.

SIR,—I was at the New Quebrada Company's meeting, and certainly I was alarmed at several of the statements made by the Chairman and officials. Setting aside the fact that the railway will not be completed for the next two years, the hint that the board have sent out Mr. Downes for the purpose of consulting with merchants as to making a road to San Felipe rather startled me. For years our magnificent mines were rendered valueless because we could not raise money to make a railway to carry the ores, and now, when by a happy chance we have found others to make that railway, and our credit has been a little established, we, a mining company, are proceeding to make roads for the benefit of other people, or, as the Chairman put it, for the benefit of the Bolivar Railway Company and the merchants of San Felipe. Surely this is, as Mr. Tufnell put it, more than madness. It cannot benefit us one farthing, but may benefit the country generally, and the merchants of San Felipe and the Bolivar Railway Company particularly. I trust that we are not about to embark in the philanthropic idea of developing the resources of Venezuela under the hope that indirectly something may in time come to ourselves.

The capital of this company has been increased since the advent of this board of directors by about 70,000*l.*, and mortgage or debenture loans to about 30,000*l.* more, and what has been done? About 2000 tons of ore have been obtained at the mine, which may leave a profit of about 5000*l.*

I confess I am anything but satisfied with the present state of matters, and if such projects as the new road to San Felipe are to be carried out I cannot help thinking that the interests of Venezuela and of the Bolivar Company are better represented at the board than those of the New Quebrada Company. A SHAREHOLDER.

NEW QUEBRADA COMPANY.

SIR,—I am an old shareholder and a former director of this company. I notice in your last week's issue the speech of the Chairman, and the general report of the meeting. I am not surprised that my friend Mr. Tufnell drew attention to the absurd proposal of the directors to make some kind of roadway to San Felipe; for this company to do such a thing is about as politic as it would be to pay the arrears of interest on the Venezuelan debt. The town of San Felipe is at least 20 miles distant from the nearest boundary of the company's territory; not one pennyworth of either the produce of the company's mines or even their estate would ever pass over the road. The Chairman could hardly be aware of the facts when he stated it would pass through our estate; at most it may pass through about 100 yards of the grounds. If our company had possession of the railway then the benefits would have been apparent, and this I often urged. Now, however, I can see only the benefit of the Bolivia Company in the object. I see also that the eminent engineer, Mr. Campbell Downes, has been engaged to carry out these objects. I wonder whether the directors made any enquiries as to the reason why Mr. Campbell Downes left this company's service some seven years ago, or what were the causes of Mr. Downes leaving the situation on the Indian Railway that he went to after he ceased to be a servant of ours.

Have Mr. Downes's occupations since then been such as to render him so specially eligible for the duties he has now been requested to take upon himself? If the board made these enquiries, and I think they could easily have done so, and were satisfied, then I will say no more; if they did not, I must imagine that they have made the appointment simply because their predecessors found it necessary to cancel a similar one, and I hope they may not regret it. I intended to have made some remarks on other statements at the meeting, but I have now occupied too much space, and must postpone them for another letter. AN OLD DIRECTOR.

NEW QUEBRADA COMPANY.

SIR,—I was startled at the doubt with which Mr. Forbes spoke as to the average value of the ore as being about 20 per cent., composed of ores varying from 4 per cent. to 47 per cent.; he was careful to say the ores of the higher grade would be small as compared with those of the 4 per cent. and upwards. Well, I believe it is acknowledged that it would not pay to bring home any ores of less value than 12 per cent., as the first 12 units at least will be absorbed by cost of getting, railway carriage, freight, &c.

There is little doubt, I believe, that the ores varying from 4 per cent. to 12 per cent. will constitute three-fifths of the whole, hence the cost of getting 1 ton and bringing it to grass is, as I have been given to believe, about 2*l.* 10s.. Then, as three-fifths is useless, the cost of the remaining two-fifths is 2*l.* 10s., or 6*l.* 5s. per ton. The railway carriage, freight, insurance, commission, &c., will not be less than 7*l.* 10s., in all 13*l.* 15s. The value of 1 ton of 20 per cent. is at present about 15*l.*, leaving a sum of 1*l.* 5s. per ton to pay the costs of management and dividend upon a capital of nearly 400,000*l.*

SHAREHOLDER.

FRONTINO AND BOLIVIA GOLD MINING COMPANY.

SIR,—On looking over your valuable Journal of Saturday I was much interested in perusing the report of the general meeting of shareholders in the above company, as held at the Cannon-street Hotel. I was pleased with the remarks of the Chairman, and by the time I got through his say I felt much elated, as a holder of shares, at our present prospects, naturally thinking the good time was coming when some of the original shareholders might reasonably expect to have some little return for their outlay and patience. Judge of my surprise when I read the proposition of Mr. Young to present the Chairman with 350 shares, or 1000*l.*; I sincerely hope and trust that when the proposition comes before the company there will be found some shareholder spirited enough to move an amendment to the following effect—That when the shareholders have been in receipt of dividends of not less than 10 per cent. for as many years as they have been without, and when that time arrives it be considered opportune. My object in writing this letter is to protest against the waste of the shareholders' money; if we get into this prospective good fortune we are entitled to have any crumbs to spare, then let us think of the brothers White, who have made the company a success. I feel assured no gentlemen would, on reflection, for one moment entertain such a proposition at the present time, or for some years to come. REASON.

Ellal, Lancashire, Nov. 29.

THE DOWSING ROD.

SIR,—Surely Mr. Kneebone's letter in the Supplement to the *Mining Journal* of Nov. 20 must be highly gratifying to his numerous friends. It is certainly very amusing, and well worthy of the party from whom it springs. To some of his friends no doubt it appears a masterly piece of literary skill, and quite conclusive on the point in question—that the dowsing-rod is a farce, and that its supporters are humbugs and imposters. Yet, methinks that among your numerous readers—some of whom have closely followed the discussson, and been led to examine and study the subject for themselves—there are, perhaps, a few to be found who still differ from Mr. Kneebone as regards his philosophy of the dowsing-rod. The plan he adopts is certainly a cunning one, and would well do credit to any pettyfogging lawyer who thought to gull the public, and enrich himself at the expense of his client. Such things may have passed muster in the dark ages when discipline was rather slack, but not now when ignorance is no excuse and drunkenness no plea for crime committed. Therefore, we cannot accept Mr. Kneebone's opening remarks—that "He has been unable to follow this subject as regularly as he could wish, and have, probably, missed some interesting letters which have appeared in the Journal." If Mr. Kneebone's object is to pass an impartial opinion on the matter one would think that he would certainly hear the evidence for and against, particularly after entering the discussion and making an attack on the dowsing theory conscientousness alone ought to have led him to have the courtesy to read the replies written in answer to him, but even that, according to his own statement, seems to have been too much for him. But to pass on, he states—"In the Journal for Oct. 30 I notice a letter from 'Scrutator,' still regretting the imaginany want of courtesy shown to his relatives and friends, with a short dissertation on 'uncommon sense.' Also one from Capt. Francis, in which he sets forth a new method for comprehending badly-expressed English—that is, to turn it into Greek. He does not say whether by mesmeric influence or by the aid of a Planchette, but goes on to give us the result of a dowsing experiment at Frongoch. And in the Journal of Nov. 6 'Fair Play' follows in the same strain with 'Scrutator,' and then expresses himself as highly gratified at the manner in which the supporters of the theory have come forward. But I am at a loss to see (similar I suppose to Nelson at the battle of Copenhagen) in what way they have thrown any light on the subject more than we had 30 years since, as nothing has been clearly authenticated which can be considered a success in a commercial point of view." * * * * *

"In a former letter I stated that neither dreamers nor dowsers could tell us where the ore is deposited in the veins, and this is the case (?), for let a man be ever so talented he can only judge of its presence or value by occular demonstration." (This is quite true with regard to men of Mr. Kneebone's class.) "And here I might ask Captain Francis and others the question, if there is any efficacy in the dowsing rod, why was so much money spent and talent wasted, and this course of ore (De Broke Mine) reaching up to the grass roots, overlooked? Could it be that they had reached that advanced state of knowledge or sagacity which 'Scrutator' calls 'uncommon sense?'"

To make any further quotations from Mr. Kneebone's letter would I feel sure be very tedious not only to myself but to your readers as well, particularly as three parts of it may be summed up in a very few words—the fantastical working of an over-excited brain. However, to deal fairly with Mr. Kneebone, I may say that as regards the few points of interest raised by your correspondent's letter, I think if he will take the trouble to look back to the numbers of the Journal, either for Oct. 16 or Oct. 23, I am not quite sure which, he will find in one of them my reply to a former letter of his, which it would appear he has either accidentally or intentionally failed to see. The letter I refer to contains I think sufficient answers both to his former letter and the one we are now dealing with; in fact, if Mr. Kneebone had read my former answer to his letter I think he might have spared himself the unnecessary trouble, and the useless repetitions contained in his last letter. As to our claiming the best of the argument, this puts me in mind of one of the instructions given by a professor of music as to singing—that is, to sing the notes as they are written. Some there are, he says, who keep up a sort of a gurgling roundabout without ever touching the notes at all; and so it is with regard to the opponents of the dowsing rod, they keep up a sort of gurgling roundabout without ever touching the real question of the philosophy of the dowsing or divining red and clairvoyance in any of its vital parts. This brings to my mind the remembrance of having once witnessed a little badger baiting. The badger was put into a shed, and a small bull terrier and two large sheep dogs were set on him. The bull terrier on being encouraged manfully laid hold of the badger by the throat, seeing which the sheep dogs occasionally gave a snarl and a growl, and laid hold of the badger by the latter end, but the moment the badger turned round on them they turned tail. And this is what we find with regard to the opponents of the dowsing rod—they, like the sheep dogs, turn tail directly anyone of the opposite opinion to themselves attempts to reason or argue the matter with them, taking refuge under all kinds of subterfuges.

Some believe it is the devil, others that it is wicked, and that we are in league with evil spirits, some shake their wise heads and gravely hint that no good will come of it, &c. And now we are told that we are claiming for ourselves the best of the argument. Argument did I say? Can we call it an argument when taking the whole lot of the opponents of the dowsing rod together, not one intelligent opponent has yet been found capable of handling the subject in a masterly manner. If, however, Mr. Kneebone or any of his friends capable of handling the subject have the least pluck, and are willing to throw down the gauntlet and, like the bull terrier already mentioned, tackle the badger by the throat, lay hold of the bull by the horns, I predict that there are some among the supporters of the dowsing rod ready to accept the challenge and argue the point out with them to the bitter end. He that hath an ear let him hear.

FAIR PLAY.

VOLUMETRIC ANALYSIS.

SIR,—You some time since referred to a system of volumetric analysis arranged by Dr. Sutton, of Norwich, and I have, consequently, devoted much time to the study of his book. It is without doubt an admirable volume, but what I should like to learn is the method of bringing out the results in percentages, which I cannot exactly understand. I think it should be arranged that a certain weight of ore—say, 10 or 20 grains, as may be deemed most desirable, and from this the percentage of the several metals should be deducible. If we could find that there was (say) 5 per cent. of copper, 10 per cent. of iron, and 20 per cent. of sulphur we should have all the information we desire. Now, Mr. Sutton's volume, in the tables at the commencement of each chapter, appears to give particulars to facilitate the calculation of these results, but the explanations as to the mode of using these tables are not sufficiently clear to enable such as myself to comprehend them, so that I, and no doubt many others, are compelled to get out the figures by a very indirect process.

From what I can see of volumetric analysis it appears to me to be invaluable, but what is required is that the manipulator should be able to take (say) 1 oz. of ore and determine therefrom how much per cent. for copper or other metal, for which he may be testing, it is worth. This, Mr. Sutton should explain, as the manipulator could then with a comparatively small amount of apparatus determine the exact value of any ore which he might meet with. In this case the volumetric system would become really valuable in the field, and in places where analysis by the dry way was out of the question.

Dec. 1. EXPLORER.

BORING MACHINERY.

SIR,—In last week's Journal Mr. H. Waddington assumes that "N. B." is an advertiser endeavouring to puff his own goods. This is very far from being the case, as we have personally nothing at stake on the failure or success of the Barrow borers. In common with all Cornishmen we have a desire to see boring machinery applied to the underground working of mines, and we believe the Barrow borer will eventually make its way. Other machines have been found too liable to accident to permit their use, and even the Barrow has been found not strong enough, although the strongest in the market. But when the question resolves itself into mere strength of material success may be fairly anticipated. Mr. Waddington appears to believe that the rock in Wheal Agar is harder than any other in the county; he talks of capels as if they were peculiar to Wheal Agar, instead of being common in all the tin mines of the vicinity. We have Capt. Josiah Thomas's statement that the Barrow machine bores 3 or 4 in. of their hard ground with ease and we have Mr. Waddington exulting because the Darlington machine drove 25 in. in 50 minutes, being at the rate of 1 in. in 2 minutes. The Darlington borer blunts a borer for every 5 in., and if this were the case in the Barrow the borer would have to be replaced every two minutes. Nothing is easier than to make statements adverse to any undertaking, and when we compare Mr. Waddington's statement that "in my opinion it is the least efficient of all the borers I have seen" with the opinion of two eminent mechanical mining engineers—Messrs. Loam and Thomas—whose experience is as diversified and varied as it is lengthened, we can only imagine that Mr. W. is not in a position to judge. However, we have no intention of making rash statements as to the success or non-success, the suitability or fragility of Wheal Agar borers; we wish them all the success which the plucky introducer merits, and we shall gladly welcome any statistics as to the working of the borers which Mr. Waddington and Capt. J. Thomas may kindly furnish for the information of the mining public outside the "ring." N. B.

Nov. 29.

GOLD IN WALES—No. X.

DOLGELLEY DISTRICT—VIGRA AND CLOGAU SECTION *(continued).*

"A dream, and not all a dream." Everybody knows, or ought to have heard, that it is exceedingly delightful to climb and ramble about the mountains in the neighbourhood of Dolgelley; and that those in quest of pure and invigorating air, and a ravenous appetite, may find both to heart's content there, without overmuch exertion, and with only the veriest modicum of risk to life or limb; and that, furthermore, given the appetite, it is equally certain that the said natural appetite can be at any time, and at all times, promptly and pleasantly appeased (to repletion, if it be so willed of the hungered), at the Royal Ship or the Royal Lion, at very reasonable charges.

"Many a time and oft" has it been my agreeable lot almost to live upon the mountain air in the day time, and to return to the Ship at eventide, or later, ravenous to the verge of cannibalism, and to find everything ready for me and others in the way of creature comforts for internal renovation. But it has been said by a meteorologist of no mean repute that it sometimes rains at Dolgelley. I believe there are not two opinions about that subject. Indeed, the rain at times puts one in mind of Noah and that wonderful menagerie of his. Well, it happened on one day in particular that it "rained heaven's hardest," as it was profanely said by an old gentleman of the period. It began at early breakfast time, and kept on pouring down in such unusual torrents that it became out of the question altogether to encourage any longer the predetermined notion of a geological survey that day. So a party of us, *nolens volens*, had to do that other very simple thing—stay where we were, and look out of window at the rain—an occupation best suited to strong-minded women; for when the lords of the creation get their pretty little overnight plans put a wee bit out of joint in some such way as this, it is laughable to see how they lounge and look idiots at each other in the tiresome uneasiness of blank disappointment. Women, under similar circumstances, never look such noodles, for they, at once seeing over the heads of men, come promptly to a decision, and busy themselves about something else instanter. Most men are unable to do this. It was the case in this instance. We felt in what is called "a fix." Eyes wandered in search of something to read. The last fortnight's newspapers on the reading table were far too stale to touch. Ordnance maps, with sanguinary tints, did but tantalise the more, inasmuch as they pointed to desiderated spots it was impossible to reach. The "Guide to North Wales" was dirtily thumbed just at the very parts where we fancied something interesting might be read if it were only readable. The rain rained on. It being July, there was no fire spitefully to poke. Nothing had happened at Dolgelley during the past night; the "post" had not come in that day. The Barmouth and Machynlleth coach of the colonel's had not yet pulled up. There was nothing to do but talk. The fun of it was that nobody on this inauspicious occasion was able to think of anything to say. Some of them at other times had delivered themselves of fair speeches. It is said that there are people somewhere who can talk a great deal without saying anything; but on this rainy morning, so jolly solemn were the party, that nobody could talk at all. The exemplary patience of that grand old naturalist, Job, was more than once referred to in a half irritable fashion, and after each half-hearted rally came a downhearted pause. Relief, however, was nearer at hand than was expected. A sergeant of police passed the window, damp and stately; he seemed to have the whole of the many-sided square in front of

the hotel entirely to himself. There was not even a goose out of doors. "There's a Bobby" exclaimed a wit. "Well, what of a Bobby?" peevishly asked another. "Hold there," observed an embryo parson, "allow me to say, in defence of my country, that a 'Sir Robert' at Dolgelley before now has been an object of considerable interest, and the sergeant you feel inclined to quiz, on account of his awe-impending brow, is a most respectable man in his way, and is, therefore, much esteemed by his townfolk. Besides, the sergeant who has now got out of sight has discovered in the book of that patient patriarch to whom you were just now rather carelessly referring, a passage which has a singularly direct bearing upon the object that is at the present time so much absorbing your attention, I mean *gold*." Our friend elongated his face somewhat as he made this memorable oration, but it was a happy suggestion nevertheless, and it afforded a topic for conversation "right straight away," as somebody else observed.

The British and Foreign Bible Society, by contributing copies of the Scriptures to hotels indiscriminately, does a good work, I think, for they are often opened and read by *bona fide* travellers when nobody is looking on. I am, however, one of those who think it perversion when a Bible is made to do duty for the broken sash-line of a bedroom window, often a fact in Wales, when a chamber candlestick does not happen to be at hand. Well, a Bible was soon forthcoming, and the sergeant's passage found without the help of a Cruden, and it was read aloud, as follows:—"Surely there is a *vein* for the silver, and a *place* for the gold where they fine it." It did not fail to arrest attention instantaneously. Tongues got untied, and for awhile three or four essayed to speak at once. The silent ice was broken, however, and a regular debate ensued, without having in it the faintest shadow of irreverence or of sectarian acrimony. It would be irrelevant to give the heads of the discourse in this place; all agreed that it was, to say the least of it, a very singular text, and a Justice of the Peace remarked that it was just the sort of text he thought that would necessarily strike very forcibly a serious police officer of the town of Dolgelley. A solution of this enigmatical observation was not given at the time. I half suspected that J. P. was not dreaming when he made it.

Well, the day wore on, as all days will, even of brilliant conversation; and, as always happens, involuntary imprisonment created a sort of necessity for dining earlier than usual, by way of accompaniment to "the feast of reason and the flow of soul." We dined at five! off pretty little Welsh fishes and matchless little Welsh mutton. We ate, drank, talked, laughed, smoked, and tired till ten. Somebody yawned about that time only just faintly. Another essayed a pun, which was a miserable failure. Smith jerked out "Whose bright presence, tips the hills with gold;" Jones, a wet-blanket always, whined "Dim aur;" Robinson got half eloquent about "Golden sands;" and the parson about "Jerusalem the golden." Thus we dragged on till eleven, about which time this tale of a stomach took another turn, and a sort of pseudo-hunger seemed to be creeping stealthily into our midst. The empty notion gained ground rapidly, and soon became curiously sympathetic and contagious. A daring adventurer (the youngest and handsomest of the party) hazarded the revolutionary idea of a melancholy species of indigestible food, yclept *Welsh rabbit* (or Welsh rarebit), by way of supper, and as an appropriate introduction to a not altogether objectionable species of drink, yclept whisky-toddy, which is usually, as everybody knows, an adulterated commodity, of which Owen Glendwr, whose cellar was just over the way, possibly never tasted or dreamed of tasting.

It is most astounding what rashness even staid people will be guilty of when they have nothing better to do. This startling proposition, as far as the vaccine part of it went, did not at the first meet with general concurrence; yet at last, strangely enough, it ended in getting everyone of us into the trap so dexterously baited with toasted cheese. Alas! poor gold hunters. Having said this much, it may be "seen at a glance" by the very dullest comprehension, as Toole would solemnly say, that the money payment for this exceedingly reckless indulgence was the least part of the total expense to the participators in their anti-commonsense exhibition. We all retired to rest or otherwise about the time when it is called "little or nothing o'clock," and not one of us at all the worse for imbibition. I went to my bed, but not, indeed, at once to,

"Nature's sweet restorer, balmy sleep."

My eyelids obstinately refused to close for I do not know how long, and when they did close I felt sensible of tossing recklessly about from side to side, and of kicking furiously and repeatedly "at nothing at all," as Mistress Brown would say. "Not all the blood in all the Howards" could have been easy under such uneasy circumstances. Conjuring myself into a physician, with the feigned gravity of a shallow-pate, I diagnosed the disease under which I was then so annoyingly suffering. After consulting my stop-watch, and feeling my own pulse as idiots do, two or three times, I eventually resolved the disorder into "cheese on the brain," and nothing more, although quite enough in its way. This point settled in half-thought as to "what's the matter," and believing as some mine adventurers do that because they have examined a mine themselves they know all about it, I left off the exertion of tossing and kicking, and got straightway bodily composed, although mentally wandering most incoherently. My disjointed imagination somehow ran back to certain bygone days that were spent in Suffolk, where not a hill is to be seen higher than a very short man. I, however, recollected that Suffolk cheese was cheese *par excellence*, and that it rejoiced in peculiarities of a character both interesting and surprising. "*Thump*" it was called, and not cheese. It was "Suffolk thump," and it might almost be worshipped, because there was nothing like it anywhere. It was said of it, *inter alia*, that its hardness was so great that "beetle and wedges" could not split it. It was impossible to cut it with an axe. No knife could wittle it. Dogs stood and barked at it because they couldn't bite it. After burning a hole through one with a hot iron it could be used as a substitute for a barrow-wheel. A wheelwright had made a grindstone of one. An ingenious itinerant, crying out one day "Old chairs to mend," espied a "thump" off guard, and ran away with it, because *cane* was scarce with him, and he was poor; he *boiled* it, and when sufficiently soft pulled it out into maccaroni-like strings, which when dry and hard he used in rebottoming half the old chairs of the adjoining parish in lieu of split cane, to his no small delight and immediate profit. Legendary, possibly. So far there was something like coherency in my dream, as it all related in some way to cheese. After that I got whirligigly-bewildered, and in that case can hardly be held responsible for anything I might think or say. Disordered imaginings mine may, therefore, be taken for. Let them so be, and if any luckless wight happens to take anything literally, on him be the *onus* who so takes. Caps flung out of window at random will sometimes alight on heads which they exactly fit. An arrow shot at a venture often hits. "*Dictum sapienti sat est.*" I did not dream that Latin quotation; it is a very old one, and means that "a nod is as good as a wink to a blind horse." But I did dream that I saw, or fancied I saw, a big "Suffolk thump" coming noiselessly trundling along over a medium not much more solid than nothing, which, in bicycle fashion, I leapt across, and trundled about hundreds and hundreds of miles upon very varied and curious excursions, and all in a very few minutes. I whisked over to California, Australia, New Zealand, Valanzasca, Transylvania, and every Havilah where there is gold, and saw almost everybody getting gold except myself. Took a homely turn into cheese factories, and, with the extraordinary sample of thump in my possession, compared it with Cheshire, Cheddar, Gloucester, and Double Gloucester, and gave a gold medal to the "Thump," because of that alone of all the cheese tribe it was impossible to make Welsh rarebit that could be eaten, even after boiling.

At length I got back to Dolgelley, as I thought. The volunteers were out, seven officers and five privates, with their band playing "The Men of Harlech." After that I dreamed of dead silence and a heterogenous admixture of telegraphic significances—trout, Cader, Cwrw, Berdan pan, high church and sectarian jackdaws, thieves, quicksilver, locks, bolts, and bars, bards, Jones, stones, bones, loans, moans, groans, honest men, Britten pans, Mosheimer's, Rittinger's, Perkes's, Mitchell's, Sloper's, tanks, banks, planks, blanks, druids, triads, jeremiads, coal, coke, tongs, fluxes, crucibles and reducibles, gold, hold, sold, pelf, Jelf, self, blankets, leather and rogues, lies, flies, salmon and sewen, wheels, blocks, pulleys and bullies, mines, fines, lines, lawyers and sawyers, leases and fleeces, fishing and dishing, Dinas Muddy red pigs, shrimp tart luncheons, Sir Robert, Sir Watkin, treacle casks, sodium amalgam, Crookes, books, hooks, Doctor Will and skill, Mistress Mill and Linseys, Meyrick Jones and Tweeds, Evan Lewis and boots, Roberts and surveys, Ordnance Maps and dials, Crown agent and affability, Crown maps and misrepresentations. Possibly about this time I had got on my back, and drove tandem, for I distinctly recollect the churchwarden's red cow that ate the rope of the bell that hung up a tree which afterwards grew out of sight in Dolgelley Churchyard, and Dolgelley Church that was papered all over with tin coffin plates, and the religious rite of thrusting round the warming-pan for levying taxes on knowledge, strangers, and foreigners. Just then the Bardic author of "The House that Jack Built" seemed to keep on humming "This was the cow that ate the rope, that pulled the bell, that hung in a tree at Dolgelley, that welcomed the wed, that numbered the dead, that reckoned the days, that fell from its stays, that frightened the people so that they built them a steeple, and put in a bell that sounded as well for the Norman Curfew, tolled by Briton's askew," &c. I recollect nearly waking at this very childish recitative somewhere near Llanfair mathafarneithath.

Soon after this, however, I must have again mounted my dandy-horse, for I seemed to run up against "Good Old Sir Robert," with "a lease in each hand and a pipe of port in the other." Then splashed in at an otter hunt with the Coroner's hounds. Picked up D. P.'s white hat. Bought a chicken for ninepence! Lunched with the Lord Mayor at Dinas Mawddwy. Got lost on Arran in a fog. Blew off the top of Carn Dochan, and killed all the fish in Llyn Tegid. Took a drive with Sir Watkin, and didn't get upset. Handed "the Princess *in* Wales" Gold-Royalty enough to make hundreds of sovereigns. Looked in at the Banks, saw curious deposits, and wondered. Got a photo of "the irregular and wild Glendwr." Lunched at the Lion, Llanwchllwyn, with some ancient Druids, and got a taste of their Awen (or flow of poetic inspiration). Bought a dozen or so of their "golden harps with golden wires." Had a cup of cwrw with Gwenwyn, who exchanged his Eudorchawg with me for a *batea*, which he put on his head, and his golden crownlet for my mineralogical hammer. I didn't envy his footbearer, who had to lay on rushes, and cherish the prince's feet in his bosom when at meals. Read Aneurin's poem of the Battle of Cathaeth, and asked John Parry whether he knew where the 400 British got the gold to make their "chains of twisted gold links," which they euphoniously called "Eudorchawg," and, in a smile of awful mirth, John answered, Indeed "No." Caught a 1000 lb. salmon on Cader, and a F.S.A. at one of the mines, broiled it whole upon a golden grid. On the way home saw a little water-wheel, to which was attached (inside a shed) a kind of churn, guiltless of butter; but guilty of mercury and amalgam, the property of an under-miner, who carried a blank check-book always in his breast pocket with one end protruding. A gnome called out to me, "A miracle! a pound a-week transformed, presto, into five." Met a lively donkey carrying "road metal" (*alias* gold specimens), attended by touters rather "*fresh*," sneaking and whispering for buyers. Followed them into Eldon-square, and then lost sight of them. Heard music of a kind not unfamiliar, a gnome proffered service, and whisked me into a *place* where they refined gold after a fashion. A pestle was braying in a mortar some "very pretty kvarz." Three pairs of eager eyes examined the result, and the honest owners of the eyes smiled two queer smiles a piece which looked almost Satanic. Aha! said my invisible attendant,

"Satan now is wiser than of yore,
And tempts by making rich, not making poor."

Dost know a Briton thinks the hills are his, not thine; foolish Saxon, to believe that such a right as this is wrong? Hear the alchemists now intoning—The hills are ours and all that is therein, and foreigners do rob but us when they do rob our hills. These are the *places* for the gold, where they *fine* it, and these the antechambers of our anti-royal mints. The prince of guiding stars to the top of Cader—the immortal Pugh—bawled out "*Et tu, Brute!*" I started, and William S. said instantly "Brutus *was* an honorable man," emphasising the auxiliary in a very peculiar manner.

The gnome now anointed my eyes with a kind of golden eye-salve, and the angle of vision was immediately enlarged. In less time than it takes in telling I saw as follows:—Cornelius Owen's tobacco box with the "noxious weed" cast out, and filled instead with pepitas, scales, and grains of gold, the reward, not of booty, but of arduous and honest labour. A man on his way to London, on foot, with an 8-oz. medicine bottle full of alluvial gold, mixed with other gold that had recently come out of quartz and blende. Two things calling themselves men straining gnats and swallowing camels by praying themselves hot on Sunday, and coolly on Monday taking the *nots* out of two of the ten commandments, and thus

"Compounding sins they have a mind to
By damning those they're not inclined to."

Saw salmon pelted with buttons of Gwynfynydd gold at the leap of the Rhiaddr Mawddach. Saw a man rob my leather satchel of a Dolfrwynog stone of exquisite interest: bought it afterwards of his executors for 3*l.*, and put it in the British Museum. Saw the cranes and pulleys erected for uplifting tons of Dolfrwynog gold. Saw tons of the richest stones put indiscriminately to the stamp-heads with the poorest, and the whole of it become poorer than the poor. Took a peep into a miner's home, and saw the shock-headed Peter brush his hair, and bring therefrom a crop of gold dust. This was a *concentrator*, a man of fixed purpose, hebdomadally pious and loud-spoken. A "rockery" in this concentrator's garden was carelessly composed of valuable material. Saw a man go deliberately into my bed-room and take a specimen of native gold occurring in galena-cavities off my dressing-table, which I had found at Tyddynglwadis. Had explained to me how any man could know what was in my letters before I did, he not being the writer, and second sight only applying to the Scottish hills, and how, therefore, I could get forestalled in applications for gold licenses. Saw also what became of lost newspapers.

Saw an ugly strolling photographer paid an honorarium in gold ore for teaching a miner's son the black art, and for immortalising the donor. Saw him drive a good trade with his camera, "Cash of no consequence, I will put up with 'speciments.'" Saw a packman, looking very like the photographer's brother in iniquity, giving "silver alberts" in exchange for bits of "common quartz having a yellow cast, the more yellow the better for polishing." Watched a mineralogist at a certain hotel lecturing on gold, and liberally inviting contributions to his collection. Saw the ancient mode of bartering again in vogue, "bits of shining stone" (like copper ore, but not *it*) passing in exchange for boots, &c. Enquired of some divines an explanation of the idiosyncracy "bundling." Got an answer in incredulous smiles, as if they should say with Sothern, "That's what no fellow can find out." Found after this both my feet in one stocking, and had the cramp. Sent a boy to fetch my pony, and he literally brought the pony without its saddle because I had not included it in the order. Saw Moses and Aaron, and literally a golden calf of the newest pattern.

Saw the gold from Clogau before the man bought his cow with it. Saw also Roderick Humphrey's donkeys, and the giant of Llanetlyd, the inimitable author of "I Knows What I Knows." Partook at Tynycelyn of a round of beef half-roasted, half-boiled, and smothered with treacle sauce. Didn't like it, so got a gritty lunch off the sand-which-is at Barmouth. Got spirited to the hill at the back of the Corsygeddal Arms at high tide. Turned my back on Dolgelley, stooped and looked between my knees up the beautiful Mawddach as the sun was getting low, and thought it nearly equal to the Lago Maggiore. Saw Sir T. J., Bart., paint me a water-colour drawing of it with some feathers he had plucked from a hen he caught by the roadside. Mistook a blacksmith's shop for a goldsmith's. Saw the golden sands of the Mawddach and the "Goose with the Golden Eggs." Bought gold-fish afterwards, and some golden candlesticks at a smithy on Clogau.

Started off to London, and saw, or fancied I saw, in the twilight the directors of a certain company, A, B, C, and D, in conference about the news of "a most extraordinary shoot of gold," and the company's secretary (who was hundreds of miles away), and the secretary's hundreds of shares and their forfeiture. I saw, or fancied I saw, that A resigned the chairmanship. C and D (office clerks of B) proposed and seconded the appointment of B to the chair in the room of A. D and C forthwith proposed and seconded a cut and dried resolution that the secretary be forthwith dismissed. To the right (?) face, C and D proposed and seconded another cut and dried proposition that A be and is hereby appointed secretary in the late secretary's room. To the left face, D and C proposed and seconded another cut and dried proposition that such of the shares of the late secretary as were in arrear of call were liable to forfeiture, and if the arrears are not paid within a given number of days said shares would be absolutely forfeited for the benefit of the company (observed that no notice was received by the secretary). Saw, or fancied I saw and heard at a subsequent meeting of B and A a certain resolution drafted out to the effect that the said shares of the secretary be and are hereby absolutely forfeited for the use of the company (although B had agreed to find the money for such call when it should be required, and there was a cash balance due to the secretary at the time).

Saw, or fancied I heard, C and D called down from B's office just overhead, and that C and D, by their bodily presence only, proposed and seconded the cut and dried resolution confirming the absolute forfeiture. That the shares were thereby forfeited accordingly, but not, as it appeared, exactly for the good of the company, as per rules and regulations of the company in that behalf. The bodily presence of C and D at once gave effect to another cut and dried resolution—that the said forfeited shares of the late secretary should be sold to B for exactly the amount of shillings due and unpaid upon them. This proposition was accepted by B. It appeared to me then that a very short interval elapsed, and a portion of these shares was sold by B for 5000*l.*, and another portion afterwards for a similar sum. I then felt regretfully some ill-blood flowing in consequence of a passport to the mine being refused point blank to the late secretary, although still a shareholder in the company. I saw him, notwithstanding, present himself at the gates of the company's works, and John Parry, the prince of gold catchers, with tears in his eyes, imperatively forbidding his entrance to the premises, and that out of consideration for J. P. alone, he turned away and went home alone.

After this, I appeared to think of the "Ancient British Gold Mines" of the Rev. E. Williams, of Lampeter, and the many bardic quotations therein touching British gold. Of Llywarch Hen, a Bardic prince, and his 24 sons (all Welshmen), each bearing the golden chain or wreath, and each possessing his golden spurs and golden shield, his armlet and his leglet, and his golden cup, and bull's horn tipped with solid gold. Of the golden *cars* (unlike Jones's) of Caswallan, Manawydan, and Llew-Llawgyfes. Of King James, and Atkinson the gold refiner, and Crawford Moor, and an Order of Conncil instructing Atkinson to move 24 gentlemen of *England* to disburse 300*l.* each; and to be created for ever "*Knights of the Golden Mines.*" Of a mass of metal "supposed to be copper," sold to a travelling tinker for 17*l.* Of Colchis and the Golden Fleece, and Mrs. Johnne's ancient gold necklace. Of virgin gold sown by the hill and way-sides to catch unwary prospecters." Of the golden shot in goose and gull quills found on the high road near Tyn-y-Groes, after a very thick shower of hail. Of paying 5*l.* 5s. for a license to search for gold on a particular spot on the Crown lands at Llawchlech, and not being able to find it anywhere, except on that wretched abortion the Crown map. A parasite, I fancy, teased me here; and I took another trundle on my animal substance, and saw native silver in the finest dust washed into the River Mawddach at Tyddynglwadis; pounds and pounds weight of gold taken away from Cwmheisian and Dolfrwynog. Saw "a fellow who had got to leeward in the voyage of life" "salt" Berthllwyd with Hafod-y-Morfa golden blende. Caught two fellows in the laboratory at Tyddynglwadis, "only annealing a plumbago crucible with nothing in it. Off I started again, like "greased lightning," to hear a lecture in Victoria by a gold authority, in which it was said "The History of Gold Mining, *in situ*, forbids *deep* mining." Discouraged, came back and saw at Hancock's "Sir Watkin's" beautiful gold goblet (140 oz.), made after the pattern of Anne Boleyn's, from Castell Carn Dochan gold. Lucky Sir Watkin, I thought. Dreamed next that I saw extraordinary variations of gold-fineness in the same material.

Rather bothered at this, but hurried off to "The famous city whose streets are paved with gold, and all its girls are pretty. A lot of Welshmen were there, each *minus* a front tooth, who kept on half-whispering, Bryn-aur (or the hill of gold), Cwtter Eurychad (or the open-cast of the gold-diggers), Merddyn Coch'r (or the ruins of red-gold); and a Scotchman, of all the peoples of earth, said "*Or-mein.*" The Welsh skedaddled, and left me floundering amongst fays, talismans, spirits (immaterial), arsenic-amalgam, "Mines Royal," and "Royal Mines," "Royal Ships," and "Royal Lions," and "Royal Oaks." Golden weapons, torques, bracelets, "diggins," gold-dust, débris, "prospecting," "washing," "amalgamating," "vanning," "crushing," "grinding," "dressing," and "blessing." Anon, I thought of the palæontologist, who, speaking intemperately of the Dolgelly district, said that it appeared to contain "something of everything, and not much of anything." Of another, a teetotaller, to whom it appeared, as if composed of "spare materials that had never been sorted." This Solon was heavily gold-studded and ringed. I laughed a sleepy laugh when I saw two learned professors, at a dinner at the Ship, descant so long upon the differences between a salmon's tail and a sewen's tail, and "tweedledum and tweedledee," that their fish got cold and their tempers hot.

Almost tired of dreaming, and feeling "all over nohow," I walked into "The Bank parlour," at the Old Lady's in Threadneedle-street, with a leather-bag, full of large lumps of gold-quartz from Clogau, and was most courteously treated by the Governor and a deputy, and the reverse by an eccentric official, who cleverly suggested that the getting of the gold into the stone was "an ingenious contrivance betwixt a dentist and a watchmaker." In dudgeon, I then smashed some of the stones in "*The first Little Britten.*" Took a few ounces of gold therefrom to Bult, the bullion dealer in Cheapside, who, eyeing me askance, asked whence I got it? On being told that I had found it in Wales, he impertinently, as I thought, proposed that I should "tell that to the Horse-Marines." However, he gave me 3*l.* 16s. 6d. an ounce for it. I thought the venerable old gentleman knew what he was doing, so I wrote it down at once as my first *commercial* gold-fact. Gave a faint Hip, hip, hurrah! and went to sleep.

The foregoing, of course, will be considered as unlinked gold-thoughts of a hideous nightmare, and not exactly as—

"Orient pearls at random strung."

"We have only spoken in our sleep.—We are awakened, and the vision's gone." And it may be that we are only half-awake to the Welsh gold question even now.

T. A. READWIN.

Nov. 29.

ABANDONED CARDIGANSHIRE MINES.

SIR,—Seeing, as I do nearly every day, mines surrounding us in every direction, and furnished with everything they require in the shape of water machinery and water for active work, which are now abandoned by parties who have reaped a most bountiful harvest from them, and which can be purchased for the value of the machinery, not including the buildings, which have cost some thousands sterling in each case, I am induced to lay the matter before the public, in hopes that some attention may be paid to them—for, knowing the properties well, and every part of their development, I am certain that good and great results would follow the investment of a very small amount of capital in making trials and further development. In one of these mines I have been called on to report, and, having done so, I estimate that by driving a cross-cut, which would not cost more than 50*l.*, a body of ore would be discovered that would lay open 36,000*l.* worth of ore, and that without deepening the shaft one inch, and should be wrought at a half profit. In another of the properties I have alluded to I estimate that 100*l.* judiciously laid out would place it into a state of annual profits of 4000*l.* Perhaps some of your readers may be inclined to think I am taking a sanguine view of matters; but when I remember that 100*l.* discovered at Goginan a course of ore that has yielded more than 600 000*l.* worth of lead and silver; that by driving a cross-cut at Bwlch Consols, which cost 15*l.*, we cut into a course of ore that yielded more than 200,000*l.* worth of silver and lead; and that at Frongoch, by cutting through the lode in the adit level, a body of lead ore was laid open that has yielded 1,000,000*l.* sterling, and still continues as rich as ever—I shall ask the public not too form a too hasty opinion as to my sanguinimity before they make themselves acquainted, and that

thoroughly, with the merits of the properties I am now writing about, for as sure as the mines here enumerated have produced the results I have named, so sure will the properties I am now speaking of, if tried, produce the results and profits here predicted. Alas, that mines such as these should be allowed to remain unwrought in the richest silver-lead and lead district in Europe, whilst foreign swindles have robbed the country of millions.

Aberystwith, Nov. 29. ABSALOM FRANCIS.

NEW CONSOLS TIN AND ARSENIC WORKS.

SIR,—About two or more years ago you favoured me by inserting in the *Mining Journal* a letter containing a description of these mines, which are situated in the parish of Stoke Climsland, Cornwall. When I knew the mine first, in the year 1849, it was called Great Wheal Martha, it was afterwards called New Wheal Martha, then New Great Consols, and lastly, and now, New Consols (Limited). It is a very common practice for new companies to adopt new names, although in this case, and in general, no advantage can be derived from the change; but the name being short, and the mine being situate near the Devon Great Consols, it is very appropriate. The mine was originally worked for copper only; a lode, called the "Silver lode," contains some silver, but the main lode, to which all the present company's operations are limited, was found to contain a large quantity of arsenic in conjunction with the copper. It was afterwards discovered by the present manager, Capt. R. Pryor, that tin in large quantities was also associated with the copper and arsenic, and it has also lately been discovered further that silver is also mixed with the other minerals, so that instead of the only mineral of copper ore the company is returning four descriptions of metals, all of which severally are made marketable at a profit. The discovery of tin occurred just in time to save the mine from a collapse. Of this mineral they returned as much as 23 tons per month from a battery of 60 stamps heads. Lately, owing to the discoveries mentioned, the tin has not been returned, except in connection with the other minerals, consequently in less quantity, because of the absence of sufficient appliances to deal with a large quantity of stuff.

The reserve of tin ground is practically unlimited. When it was discovered that the copper, in combination with the tin in the lode-stuff, could be extracted by the Nascent process preparations were made for that purpose, and the erections necessary for it have been on the increase during the last two years, and by the further outlay of about 4000*l.* all the appliances requisite for the separation of the four metals on a large scale will be complete, including works to refine the crude arsenic. Then, it is confidently believed, profit on a liberal scale will be divisable among the adventurers at their quarterly or other meetings. At present the company is labouring under some disadvantages, one of which is the want of men, who cannot conveniently work in the mine for want of sufficient house accommodation, and there are no houses in course of erection in the locality. Now that the mine is regarded by the agents, and will soon be regarded by the public in general, as standing on a good basis, so to speak—*i.e.*, as a lasting property—persons are likely to apply some of their money to the erection of dwelling-houses. Meantime it would be well for the company to erect a few houses, first taking the usual lease from the lord, for I would not advise them to build on a 21-years lease. I have made enquiry of the agents as to the present yield from the mine, and am informed that in the month of September the yield was 12½ tons of precipitate, sold for about 800*l.*; arsenic, 700*l.*; tin, 200*l.*: total, 1700*l.* In October the minerals prepared for sale are—Precipitate 15 tons, arsenic over 100 tons, and tin about 5 tons. That return will, they say, increase considerably and progressively.

The following is a list of the machinery and appliances now on the mine:—An 80-in. pumping-engine on Phillips's engine-shaft, which pumps the water from the bottom of the mine, which is from surface 112 fms., with 19-in. pitwork; a 50-in. pumping-engine at the Broadgate shaft, which is 100 fms. from surface; a water-wheel for pumping of 50 ft. diameter, and 4½-ft. abreast; 1-24 in. cylinder winding-engine, drawing from Phillips's and Thomas's shafts; a water winding engine-wheel, about 18 ft. diameter; a 22-ft. water winding-wheel; several horse whims; a 36-in. stamping-engine, with 60 heads attached, and to which is also attached 14-in. pumping gear to supply water from a reservoir to all the dressing works; a 28-in. engine to work two large crushers, one of which has 30-in. rolls, and the other 28-in.; a 12-in. horizontal engine, to drive a Blake's stone crusher (one of the largest sent into Cornwall, and which gives great satisfaction), with saw-mill attached, which is also very satisfactory. They have also attached to the 22-in. winding-engine a set of 20-in. rolls for crushing; also an 18-in. crusher, driven by water, and winding gear attached. They have extensive dressing-floors in front of the stamps, with water-wheel to drive all the machinery required; large slime ponds, and slime-dressing machinery, with Borlase's buddles attached; water-wheels also to drive the same. They have also a large rag-burning tin floor 320 ft. long and 60 ft. broad, one-half of which has a wooden frame over it, with all buddles, frames, &c., required for that portion of tin-dressing, with large clean tin-dressing floors containing all the necessary appliances for such work. Seven Brunton's calcining-furnaces, driven by water-power; the most extensive flues and arsenic chambers ever known for such works in Cornwall. Ten large reverbatory ovens, with arsenic channels and flues attached many hundreds of fathoms in length, having stacks, &c., with all the necessary appliances for calcining and chlorodising, including an 11-ton boiler. The company has been obliged to purchase the freehold of the flour mill at Luckett, because they wanted the water for dressing purposes, and also eight dwelling-houses adjacent.

I cannot enter into a minute detail of all the items, such as culvert drains, water courses, excavations, &c., which all practical men well know to be involved.

The company have wisely erected a large boarding house for the accommodation of the miners at Luckett, which will accommodate 50 men. A reading room, receiving 11 daily and weekly papers, has also been opened in Luckett, supported by contributions and donations, H.R.H. the Prince of Wales having contributed 10*l.*, and several other gentlemen smaller sums.

About three years ago, soon after the commencement of the arsenical operations, it was found that the fumes from the stack destroyed the vegetation in its vicinity, and this circumstance had nearly proved fatal to the mine. An agent of the Duke of Cornwall, whose zeal for agriculture exceeded his knowledge of the value of mines and of mineral dues to the lord, tried to stop the works by an injunction, from which the company had a narrow escape. Some small occupiers had been magnifying the injury done to the land, and in addition to that it was alleged that the effect of the smoke on the inhabitants was prejudicial, and in particular that a family in the village of Luckett was affected thereby. These representations reaching the Duchy Office had, as I said, been nearly fatal; but fortunately a discovery was made by a medical man that the disease from which the family was suffering was nothing more than a cutaneous disease, the result of natural causes. This fact was certified by the same medical man.

As regards the occupiers, they are now all satisfied, and the smoke nuisance, by scientific arrangements, has ceased to exist. This mine is said by some to hold out better prospects of permanence than any other mine in Cornwall. How far that belief is well founded time only can show. A first-class mine agent, who inspected it before the chemical separations commenced, declared it to be a better mine than Dolcoath, and he knows Dolcoath as well as any man in it. Never was a better proof presented of the effects of perseverance and resolution than is afforded in the case of this mine. I believe that the formidable obstacles, put from time to time in Capt. Pryor's way, would have driven 99 managers out of 100 off the mine. But he, knowing the property to be good, by indomitable courage surmounted them all, and succeeded in getting the mine into a profitable state. The financial circumstances also are good. I suppose that the company will not overlook his extraordinary services, but will give a practical proof of their recognition of them. Notwithstanding all the difficulties met with in the prosecution of this mine, a monthly pay was never postponed, to the credit of the managing director, be it said.

The success of New Consols is likely to have a favourable effect upon other mines in the district, which have been resumed under the name of "Emmens'United Mines," and which consist of about a dozen or fifteen mines in and near Calstock parish. OBSERVER.

Tavistock, Dec. 1.

THE ARSENIC TRADE.

SIR,—The true market value of a commodity can never be readily ascertained when the dealings in it are conducted in secret, and this secrecy is moreover at all times objectionable, since it compels consumers to pay too high a price, confers no advantage on the producer unless he be in league with the middleman, and is only to a small extent beneficial to the middleman, since he merely sells say 2000 tons per annum at 8*l.* profit=16,000*l.*, instead of 8000 tons at 2*l.* profit=16,000*l.* For some time past arsenic has been one of those minerals sold on the secret system, the result being that at the present moment consumers are paying 12*l.* or 13*l.* per ton for refined arsenic, whilst, considering the quantity of crude obtainable in Cornwall alone, the cost of refining and the expense of getting it to market, 6*l.* or 7*l.* per ton at most would leave a very handsome profit.

If the Devon Great Consols directors can make a high price for their refined arsenic they are justly entitled to do so, but there are certain principles of business which should be adhered to, and although departure from them may for a time be remunerative, the ultimate result seldom fails to be adverse to those who have dealt unfairly. In asking for tenders it is a common and very proper practice to insert the proviso that "A. B. do not bind themselves to accept the highest or any tender," because an insolvent may tender at a higher price than any honest trader could afford to give; but it is always understood that where tenders are invited business is intended, few suspecting the disreputable practice of inviting tenders for the sole purpose of obtaining quotations, to be used as guides in carrying on secret negociations subsequently. Were such transactions common business would soon be brought to a standstill, but happily there exists among the general body of City business men a more honourable system of dealing.

Considering the present sources of supply in connection with the demand existing for refined arsenic, the present price in London ought not to exceed 6*l.* per ton, and we do not hesitate to say that before the end of 1876 not more than 4*l.* 10*s.* to 5*l.* per ton will be obtainable. It is upon this basis, then, that all forward contracts should be made. Crude arsenic, or soot, can be had in almost any quantity in Cornwall; in fact, there are many mines that could refine and sell large quantities of arsenic at the lower of these prices, and yet earn a very considerable profit. So, also, there are many districts in which arsenic refineries could be erected to refine for the miners at a royalty, with obvious advantage to both parties. But as this would be an arrangement not common in England there might be some difficulty in organising it; *bonâ fide* sellers and straightforward purchasers have, therefore, much to gain from making the cost of production and of sale as widely known as possible, since the mere knowledge that any firm is realising from 8*l.* to 10*l.* per ton profit from so simple a process as the refining of arsenic, and that from 2*l.* to 3*l.* per ton profit can be secured when the market price is but 6*l.* per ton, will surely bring many new refiners into the field. Let consumers make known through the *Mining Journal* how much per annum of refined arsenic, at 5*l.* per ton, they can dispose of, and the quantity will be forthcoming.

City, Dec. 1. P. B. AND CO.

WHEAL WREY, LUDCOTT, AND NORTH TRELAWNEY.

SIR,—I notice the remarks of "Fair Play" in last week's Journal, but if he had known the true position of affairs from the first starting he would not be surprised at the concealment of the truth, as several letters have appeared in the Journal in exposition of the protested meetings held, and the doubtful legality of the resolutions passed; the manner in which the signatures were obtained to the Articles of Association, and the erasure of others; and the resignation of one of the directors after the first meeting, whose place has not since been filled. The local shareholders are at loss to know how many shares are held in London; it is supposed to be a very limited number, if the first meeting may be taken as an example, as only two small shareholders were in attendance besides promoters and directors, holding, it is said, free shares. The deputing of Capts. Holman, Rich, and Thomas was another useless expenditure of money, and should be paid by the directors, as they should have known at the time there was not the remotest chance of the engines being removed from their present position (the same as purchased by Mr. Allen, and now advertised for sale). If the whole of the proposed capital had been subscribed for it would not have been sufficient to give these extensive and deep mines a thorough development. The best policy would be for the promoters and directors who have incurred these expenses to disburse their own liabilities, so as to prevent any litigation or further disclosures, as the local shareholders are determined, "One and All," not to pay any calls illegally made without the approval of the Vice-Warden of the Stannaries, and a thorough investigation of the whole of the affairs from the commencement. I doubt if Mr. Loam would take the reins of government or leadership under the present ministry in winding-up this miserable failure. NON EXPECTANS.

Liskeard, Dec. 1.

MINING IN ST. JUST.

SIR,—The stoppage of so many mines in Cornwall is a subject of general regret, because of the consequent discharge of the labourers employed, who have been necessitated to leave their homes and families in quest of employment elsewhere. As a rule, non-productiveness is the cause of abandonment; in some cases mismanagement; but in the case of St. Just Amalgamated, the cause is considered to lay at the door of the landowners. I find that one of the landowners in St. Just Amalgamated is Mr. Alfred Chenhalls, whose land abuts on the adjoining sett of Cape Cornwall, which was worked by the same company, and that the Cape Cornwall owner is Mr. R. Boyns. The shoot of tin ground in St. Just Amalgamated dipped into Cape Cornwall, but unhappily there was a barrier of 10 fms. of ungranted ground between them—5 fms. each side of the lord's boundary line. To pursue the tin ground, which was worked to within a short distance of the boundary line, it was necessary to obtain the consent of Messrs. A. Chenhalls and R. Boynes, but which consent they declined to grant for some reason. Considering that it was their interest to grant on account of the dues which would be sure to accrue to them, it seems strange that they preferred to see both the mines abandoned rather than concede to the wishes of the companies, and the result is the cessation of all work in those mines, and the dismissal of hundreds of labourers, to the prejudice of the parish in which the same landowners reside, and where all, or nearly all, their property is situate. Their policy (if it deserves the name) is regarded as suicidal. For their obstinancy they deserve the reprehension of every labourer dismissed, and of every ratepayer in St. Just. Those mines, so unfairly stopped, are not likely to be re-opened in the lifetime of the owners. OBSERVER.

Penzance, Nov. 30.

ST. JUST AMALGAMATED.

SIR,—It is to be regretted that these mines are suspended, because thereby 250 persons have been thrown out of employment, besides about 20 persons in the contiguous mine of Cape Cornwall. Persons unacquainted with the cause of this abandonment may be desirous of knowing what it was. I have been informed that it was owing to the want of unanimity on the part of the lords of the respective mines; they would not concur in the desired amalgamation of the two mines, nor in the cutting through a barrier of 10 fms. between them, although the lessees of the mines wished it, because the St. Just Amalgamated could not possibly pay without following the tin, which is dipping into Cape Cornwall. Considering that by the continued working of these mines these lords would be sure of receiving large sums for dues, it does appear strange that they should act so prejudicially against themselves. I am informed that in the event of the suggested amalgamation it would be necessary to make a considerable outlay to effectually work the joint mines, and this outlay the amalgamated companies were prepared to make. Those lords whose actions in this case have been antagonistic to each other are also greatly against the commonwealth of their own parish, deserve the condemnation of the public generally, and are unworthy to be lords of the soil.

Some persons may imagine that this conduct on the part of the lords was with a view to the securing a good thing for themselves, which is far from being the case, for no mines can be worked poorer or less expensively than these mines have been of late, and which have not resulted in profit; and, therefore, any resumption after the pitwork has been drawn up and the mine dismantled is highly improbable, even if a much better price for tin should be obtained, This I am informed from the best authority. ST. JUST.

Nov. 26.

WHEAL GRENVILLE.

SIR,—It is a somewhat remarkable fact that in the case submitted to counsel, in reference to the Wheal Grenville rules, his "particular" attention is called to the 4th, 5th, 6th, 7th, and 17th sections of the Stannaries Act, but no mention whatever is made of the "9th section," which is the only one bearing on the point at issue!

Mr. Rogers evidently noticed this omission, for the "qualification" he gives to his introduction—and which overshadows his whole opinion—refers to the 9th section, and the inferences I drew from it in my last. He says that it appears to him the rules are binding, "although the fact of non-registration" (under 9th section) "would strengthen the views of any shareholder who might have substantial grounds for alleging that the rules and regulations of 1855 *had either been practically superseded by other resolutions, or treated as of no binding force.*"

Let me add, in this place, that I have not a word to say against the new secretary personally; I have known him many years, and have no doubt he will carry out in an impartial and proper manner all the duties intrusted to him. I may further state, I believe, that before his letter could have been in type he was assured by the late secretary he was quite ready to deliver up everything connected with the company at once, on receiving a proper indemnity.

Mr. Laws is wrong in supposing that "lords" look to the mine, and not to the lessees; they look to the latter alone. Some 23 years ago I became the lessee of a mine in which there were stringent covenants, and a dead rent of 40*l.* a-year. There was also the *retiring clause* on giving six months notice. The shareholders gave up the mine after a short trial, and wound up the company. The six months notice was given to the lord's agents to determine the lease, and it was not acknowledged until the end of that time, when I was informed that as all the covenants in the lease *had not been performed* I could not be released. I had counsel's opinion, and found at last that I had to submit, and to pay 40*l.* per year for 20 years, or 800*l.*, out of my own pocket.

Now, there are stringent covenants in Grenville lease, and also a *dead rent*, for which the secretary is solely responsible, and surely it is only right that he should be *properly* and securely indemnified.

ARGUS.

AUSTRALIAN MINING.

SIR,—I note the letter in last week's Journal, signed "Another Investor," but I wish at once to say that I have not the time to enter into newspaper discussion with any, least of all anonymous, correspondents. The writer of the former letter had he attended the meeting, which I should have preferred he would—as the report in last week's Journal shows, and a copy of which was forwarded to all shareholders alike—have found his sufficient reply there. Your last week's correspondent refers mainly to the London and St. Arnaud Company when he talks of the cost of management, if he be a shareholder, he knows only too well, for all the shareholders have been told it by circular times out of number that practically not one of the vendors nor the directors, nor myself, has received a shilling, and none of the vendors' shares have been sold. Indeed, but for the monetary assistance afforded by the directors and myself in taking fresh shares when the bulk of the shareholders held aloof the undertaking would long before this have been numbered with the dead. As regards the present prospects of the mine, if the prospectus were to be re-written the terms of it could honestly be made more flattering even than in the one first issued to the public. That, all will admit, is a great deal to be able to say. Your correspondent evidently knows little or nothing of mining or he would never talk of quartz mines being worked out before they are sent home to be placed upon this market. Did he ever know of a quartz mine being worked out? I never did. All the principal lodes which were in profitable work in Victoria 20 years ago are off and on, as those in profitable work now.

There are the alternations of richness and poorness incidental to all mines, and he may take this consolation to heart—many of the mines at a depth have become richer than ever. I have not the slightest moral doubt that the St. Arnaud property will be in active operation years and years after "Another Investor" has been gathered to his fathers. The Port Phillip Company ceased to make profits a year or two ago, but they had the courage of their opinions, and are now again reaping the benefit of their persistence and faith in the mine, which is now looking well. It may be broadly stated that the sum total of the work done by nine-tenths of the Victorian mines launched in England, all put together, would not equal that done by a single Victorian venture reported last week—the Magdala—which has only just now touched encouragement for the first time after sinking nearly 1700 ft. Splendid profits are unquestionably to be made by mining, such as can be gained from no other undertaking. At the same mining is, after all, mining, and the most that can be done for an investor is to protect him as far as possible from incurring more than a fair mining risk. But my own experience is that in honest undertakings success is more frequently missed through failure to give that proper support without which, under similar circumstances, no commercial undertaking, even the soundest, could hope to succeed. Mining undertakings require necessarily more consideration, and greater margin for mistakes and miscalculations than any other, but as a rule they get infinitely less. Nearly all successful mining undertakings that I have heard of made mistakes in the beginning. The St. John del Rey was a failure at first, so was the Port Phillip, so were scores and scores of others that I know of, but they had brave men at the back of them who pulled them through successfully. Those who lose heart at the first mistake have no business in mining. One might, however, if one had the time, write a book upon the subject. THOMAS DICKER.

THE CANADIAN STEEL COMPANY.

SIR,—I enclose a cutting from a Glasgow newspaper, containing a short article from a Nova Scotian paper as to the "Canada Steel Company." As the head-quarters of that company are in London, and the shares are held in England and Scotland, the article will be interesting to them and many other readers of the Journal, and I will be glad if you will kindly find a place for it in the *Mining Journal* of next Saturday.—*Glasgow, Dec.* 2. SHAREHOLDER.

THE STEEL COMPANY OF CANADA.

The most important enterprise now being carried on in the province of Nova Scotia, and perhaps the most important in the Dominion, is that of the Steel Company of Canada (Limited), at Londonderry, Colchester county. The company is composed of a few English capitalists, incorporated both in this province and in England, with a capital of $2,500,000. In October, 1873, the company purchased the Acadian Iron Mines, Londonderry, for the purpose of engaging in the manufacture of steel rails, &c. Operations were commenced in the summer of 1874, and have since been vigorously carried on. In addition to the purchase price of the property, the company have already expended about $500,000 in prospecting and raising ore; in the erection of two large blast-furnaces for making coke pig-iron; in building two rotators and a melting furnace, with regenerative gas producers, for the purpose of making steel direct from the ore by Siemens' direct process, and in railway works. The company hold the patent right in Canada of the Siemens' process and the inventor, Mr. Siemens, is the chairman.

About 2½ miles of railway have been constructed to carry ore from the West Mines to the works, and a contract has just been let for the building of a branch line of 5 miles from Debert Station, on the Intercolonial Railway, to the East Mines in the Folly Mountains. When this line is completed the company will own and operate, with their own rolling stock, 10 miles of railway, and have running powers over 5 miles of the Intercolonial between Londonderry and Debert Stations. The company own about 35 square miles of the county of Colchester, containing a mineral range running from east to west 13 miles, rich in red and brown hematite, spathic and specular ores and ankerite, besides large deposits of fire-clay. Coal has been discovered on the property, but none has been raised; for the present the company are drawing their coal supplies from the mines of

Spring Hill and Pictou. The company are now turning out superior castings, car wheels, rolls, ship knees. and all qualities of steel. Large quantities of charcoal pig-iron are on hand, and the charcoal blast-furnace is kept steadily working. The adits in the mountains already extend over 3 miles. About 350 miners are employed, 300 of whom are Cornishmen specially imported by the company. Altogether about 500 men receive employment at the works.

The village of Londonderry Mines, with a population of about 1500, may be said to be owned by the company. They own nearly all the houses, have erected churches and school-houses, and secured the services of clergymen and a doctor. The works of the Steel Company of Canada, already take rank among the greatest mining and manufacturing concerns in the Dominion. Yet they are only in their infancy—small when compared with what the company propose to make them ultimately. It is expected that by next August the company will be able to supply the Canadian market with coke pig-iron for foundry purposes at prices that will defy importation. The present depressed condition of the iron trade naturally discourages the extensive improvements that the company have in contemplation. This depression, however, must soon give place to a revival of trade, and when this occurs the company will proceed to erect extensive rolling-mills and shops capable of producing all the steel rails required in Canada, and large quantities for exportation to the United States, England, and the continent of Europe, the company being confident that, with their rich ore and facilities for production, they can compete with all comers.

The company have engaged a large space in the Canadian department of the Philadelphia Centennial Exhibition, and are preparing to exhibit specimens of their ore, castings, car-wheels, rolls, and steel of various qualities—a collection which will bring the Londonderry works particularly and the mineral wealth of Nova Scotia generally prominently before the world. Our minerals are among our most extensive and valuable resources, and on their skilful development depends, in a large measure, the prosperity of our province. This being the case, it must be most gratifying to all our people to find such a body of capitalists as the Steel Company of Canada investing their wealth in our great iron deposits, and building up industries which promise to become remunerative to the investors, and must be greatly advantageous to the community. The Londonderry enterprise deserves every encouragement and success.—*Halifax Morning Chronicle.*

Meetings of Public Companies.

THE SCOTTISH AUSTRALIAN MINING COMPANY.

The half-yearly meeting of shareholders was held, on Monday, at the London Tavern,—Mr. A. W. Young, M.P., in the chair.

Mr. Grainger (the secretary) having read the notice convening the meeting, the report of the directors was taken as read; its tenor i as follows:—

LAMBTON COLLIERY.

The company's sales of coals amounted to 61,629 tons for the half-year ending June 30 last, and the net profit realised from the colliery during that period to 9427*l.* 2s. 8d., as shown by the annexed profit and loss account; the necessary disbursements for maintenance and renewal having been made. In July of the current half-year the company's trade, which during the half year under review had been rather slack, had considerably increased again, the sales for that month having been 15,197 tons, and for August 16,036 tons, and the manager, in his most recently received letter, of date Sept. 7 last, observes:—"A good trade in coal is still being done in Newcastle, and the harbour is pretty full of shipping. Since the date of my last the trade has been very good." It is satisfactory to know that the Government are making arrangements to increase the appliances for shipping coal at the port.

The manager further reports:—"I lately paid a visit of more than a week to Lambton, and found the colliery in good order, and several important works progressing favourably." Mr. Crondace, the viewer, in his half-yearly report of Aug. 2 last, on the colliery states:—"The character and quality of the coal is, I am confident, as good if not better than ever it was. I am glad to say that the Lambton Colliery, works, plant, &c., are in a better state and condition (excepting some of the wagons now under repair) than it has ever been my pleasure to report previously. I am sure this is a state of matters which cannot fail to be satisfactory to all concerned and interested."

ACCOUNTS—DIVIDEND.

The annexed accounts set forth the operations of the company during the six months ending on June 30, 1875, and exhibit its position at that date. The balance of profit shown by the general revenue account is 8943*l.* 16s. 3d. The directors propose the payment of a dividend at the rate of 12½ per cent per annum on the paid-up capital of the company, 127,500*l.*, free of income tax, which will require £7968 15 0
And to carry forward to next account 975 1 3

Total..... £8943 16 3

It is proposed to make the dividend payable on Tuesday, Dec. 7.

LAND AT NEWCASTLE.

The operations of levelling, covering, and preparing for building purposes in progress on this land, as explained in last report, have been continued under the direction of Mr. Crondace, and will soon be completed. The manager, in his last letter, reports that "this land is fast getting into a state fit for building on, and we hear of people desirous of purchasing or renting portions of it for that purpose."

UNDEVELOPED MINERAL PROPERTIES.

The directors consider that the time has arrived when steps ought to be taken to turn to account some of the undeveloped mineral properties which the company with that view has from time to time acquired; the progress of railway communication, an increased supply of labour, and the marked activity that generally prevails in the Australian colonies affording good grounds, as the manager and your directors believe, for considering that efforts in that direction may now be made successfully. The whole of such properties are included in the schedule annexed to this report, and the board recommend that the property recently acquired in Queensland, and the Cadia properties in New South Wales, shall first be taken in hand, and developed in a careful and tentative manner, and so soon as assuring results shall be thereby attained that they shall then be worked with vigour.

PROPERTY IN QUEENSLAND.

These eight sections of mineral land comprise 1557 acres. They are situate on the River Dee, 16 miles from the Westwood Railway Station, which again is distant by railway 30 miles west from the town and port of Rockhampton, in Queensland, and have been twice visited by Mr. Morehead, the manager. The lode crops up above the surface for a long distance. From the latest advices it appears that three principal shafts (and an adit shaft) have been sunk upon to the depth of 43, 50, and 60 ft. respectively, and a tunnel and some short levels driven. By these slight exploratory operations a considerable quantity of good ore of high average percentage for copper has been raised. One section only (160 acres) of the land was in the first instance purchased from selectors (who had previously discovered and acquired it by conditional purchase from the Crown) after inspection, and by the advice of Capt. John Henry Holman (who is now in charge of the property) at a cost of 2000*l.* in August, 1874. The other seven selections have since at different dates been acquired direct from the Crown. The terms on which such lands are obtainable in Queensland are by payment of the purchase price of 30s. an acre, 5s. per acre having to be paid on selection, and the balance within twelve months of approval of the application for the land, and the expenditure thereon of 20s. per acre within two years from the date of such approval, whereupon a freehold title is granted. Capt. Josiah Holman, a well-known mining engineer of skill and lengthened colonial experience, also has twice visited and reported on the property on behalf of the company, and in his second report of date Sept. 3 last he states:—"The Little Blow Shaft had obtained a depth of 54 ft., and, like the E shaft, was being sunk by six miners. The carbonate ores in the shaft, which had increased in quantity and good quality from surface, had recently given place to grey and yellow sulphurets of copper of good quality also, accompanied by iron pyrites; the lode in the bottom of the shaft ranging from 1 ft. wide in the east end to 2½ ft. in the west end. I estimate the ores raised at this shaft at fully 50 tons, a large proportion of which will give an average yield of 20 per cent. of copper. The E shaft had been sunk to 48 ft., where the lode was 4 ft. wide, composed of very hard yellow ore, pyrites, and capels. The yield of ores had been steady and tolerably uniform from surface down. Probably the sinking of two shafts simultaneously—the E and the Little Blow—should constitute as much costly work as ought to be incurred in the first instance. I would, however, recommend at some early future that No. 1 shaft should be deepened, as the bottom of it at the time of its suspension produced some good stones of yellow ores obained from a wide, soft, and promising lode." There is an ample supply of wood for fuel on the property, and the cost of carriage from the mine to the port of Rockhampton will not exceed 40s. per ton. It is expected that a moderate amount of capital judiciously expended will suffice to bring the mine into a productive paying state. (See plans Nos. 1, 2, and 3.)

THE CADIA PROPERTIES.

These properties are situate 39 miles west of Bathurst, and 10 miles to the south of Orange, in the county of Harden, in New South Wales. They now consist of 3122 acres, 0 roods 23 perches of freehold and 150 acres of leasehold (also convertible into freehold) land. In East Cadia gold exists, both alluvial and in the reef; but hitherto operations to obtain it have been carried on by tributers—*i.e.*, by working men content to receive in lieu of wages a percentage of such gold as they could discover and raise. The last set of men who worked in this way on the property raised therefrom in a short time gold (including a nugget weighing 39 ozs. 14 dwts. 4 grs.) to the extent of 237 ozs., but not possessing the appliances or pecuniary resources which they found to be necessary for a lengthened effort they ceased to work. In the case, too, of some previous workings, prosecuted on a somewhat different footing, 7½ tons of stone taken from the reef had yielded upwards of 8 ozs. of gold. It is considered by Mr. Morehead that he has acquired all the land and command of water that it was desirable in the interests of the company to secure. It may be further stated that there exists on the property an unusually large iron lode, admitting of being worked with great facility, and yielding ore of good percentage, well adapted for making excellent iron, and although there is no intention of touching it at present, it is a metallic deposit which at no distant day, perhaps, may in itself become a valuable property. It is expected that the Great Western Railway from Sydney will be completed to Orange, and, therefore, within 10 miles of the Cadia properties, by August next. On West Cadia there is a 25-inch cylinder Cornish engine and crusher, together with pitwork, stamps, smelting works, sawmill, buildings, implements, tools, &c., some of which will require renewal and repairs prior to resumption of operations. The former proprietors raised from the property, without sinking to a great depth 681 tons 5 cwts. 1 qr. 25 lbs. of fine copper, but owing to the cost of carriage and the low price of that metal which then prevailed operations were discontinued, and the property came into the hands of this company. There is also a house and farm on the property.

On the subject of dealing with the Cadia properties, Mr. Morehead, in one of his most recently received letters, of date Sept. 3 last, writes:—"I continue desirous that this company should itself undertake the working of the property for gold and copper. On putting the question to-day to Capt. Josiah Holman, he tells me that an amount quite within 10,000*l.*, possibly not more than half that sum, will suffice, he believes, to open it out in a satisfactory manner. I hope, therefore, soon to receive an intimation of approval of working Cadia on the system set forth in his letter of April 20 last." In the letter referred to Captain Holman enters very fully and in detail into the whole subject of working the property; he recommends that operations should be commenced on a moderate scale in the first instance, but with ample scope provided for extension in the event of their proving successful; that they should be prosecuted for gold and copper simultaneously, because the former metal, in greater or less degree, seems to have been generally found in the copper ore that exists in the properties, and that the abundant water-power on the property should be fully utilised in conducting such operations. He, further, strongly advises that the company, in the circumstances of the case, should take the working of the property into their own hands rather than allow third parties to lease or work it on a royalty. (See plans, Nos. 4, 5, and 6.)

INCREASE OF CAPITAL.

In order to deal with the foregoing (and as suitable opportunities arise with others of the mineral properties of the company) efficiently, the directors consider it to be indispensable that the company should be in a position to have at its command sufficient capital to be called up if and when necessary. They, therefore, propose that the nominal capital of the company shall be increased by the creation of 50,000 additional shares of 1*l.* each, to be allotted *pro rata* at a premium of 1s. per share, to the existing shareholders of the company. A first instalment of 5s. per share, of the amount of the said shares, to be paid on Jan. 1 next, and such shares to participate, in proportion to the amount paid up thereon, in all dividends to be hereafter paid by the company, *pari passu* with all the other shares therein. A resolution, of which a copy accompanies this report, to increase the capital, will accordingly be proposed at the special general meeting to be held immediately after the ensuing half-yearly general meeting of the company.

ARTICLES OF ASSOCIATION.

The directors propose to take advantage of the opportunity afforded by such special general meeting to make certain necessary alterations in the Articles of Association of the company. A copy of the resolutions, which will be proposed at the meeting for that purpose, likewise accompanies this report.

The following is a list of the properties of the company at June 30:

	No.	Contents. A.	R.	P.	Name and situation.	Tenure.
Eleven original properties.	1...	960	0	0	Coal lands to the west of Newcastle, on which have been established the Lambton Colliery and Township.	Freehold
	2...	1,154	0	0	Ditto, adjoining No. 1, acquired from the Crown.	Ditto
	3...	280	0	0	Ditto, adjoining No. 1, leased from the Crown, at the rent of 5s. per acre: not convertible into freehold, being part of the Newcastle town pasture reserves	Leasehold
	4...	400	0	0	The Good Hope Property and Copper Mine, in the county of Harden	Freehold
	5 & 6	1,244	2	0	Land on either side of Yass River, in the counties of King and Murray	Ditto
	7...	1,093	0	0	Land on Murrumbidgee River, in the county Murray (under agreement for sale)	Ditto
	8...	1,095	0	0	Land on Queanbeyan River, in county Murray	Ditto
	9...	100	0	0	Coal lands at Dartinouth, near Newcastle, in the county Northumberland	Ditto
	10...	1,095	0	0	Coal lands at Hexham, on Hunter River, in the county Northumberland	Ditto
	11...	24	2	0	Land at Moscheto Island, in Hunter River, close to city of Newcastle, in county Northumberland.	Ditto
	12...	7	3	33	Building land in the city of Newcastle	Ditto
	13...	2	0	0	Ditto, Ditto.	Ditto
	14...	—			Properties and privileges of a miscellaneous character at the harbour of Newcastle, &c.	
	15...	1,827	2	26	The East Cadia property, and copper mine and smelting works erected thereon	Ditto
	16	1,074	1	36	The West Cadia property and copper mine	Ditto
		150	0	0	Leasehold land there	Leasehold
	17...	220	0	0	Farm and house at Cadia	Freehold
	18...	10	0	0	Land on Bullock Island near the south-west side of the harbour at Newcastle	Ditto
	19...	614	0	0	Coal lands at Stockton, on N.E. side of, and near entrance to, the harbour of Newcastle	Leasehold
	20...	1,557	0	0	Copper property near Rockhampton, Queensland.	Freehold
	Acres...	12,909	0	14		

The Chairman, in moving its adoption, said the output from the Lambton Colliery during the six months ending on June 30 last had not been an extraordinary one, but there was nothing, he thought, to be dissatisfied with, considering they were able to pay a dividend at the rate of 12½ per cent. per annum, and carry over a fair balance. They had done a very good trade during the first three months of the current half-year. They had frequently regretted the circumstance that, having other valuable and important properties, they had no other dividend-earner than the Lambton Colliery. This state of affairs had lasted some time, but the directors had now come to the conclusion that the state of the colony—more particularly remembering that railways had been made to a point somewhat near their property—justified their asking the shareholders to develope their Cadia properties for gold and copper, and their copper property on the River Dee, in Queensland. An increase of capital would be necessary to effect this, and there were various ways of raising it. They might have called up a portion of the 22,500*l.* yet remaining uncalled of their present capital, but as there were several objections to this course being taken, under existing circumstances, they did not propose to do so. In commencing to develope the before-mentioned two properties they felt it was necessary that they should have such an amount of unpaid capital that they would have the means of fully developing the properties ultimately. Then there was the valuable coal property at Stockton, and the question of an independent shipping place for the Lambton Colliery, which very much engaged the attention of the board in looking to the immediate future. Another reason was that there were few dealings on the Stock Exchanges in the 30,000 shares on which 5s. had been paid—the amount being so limited—but the directors believed they would be more freely dealt in if the number of those shares were increased. In regard to these additional shares, the board proposed to issue them at 1s. premium. A first instalment would be paid on Jan. 1 next, and in the following May those who had paid the 5s. on the new shares would rank equally with all other shareholders in the dividend then to be paid. He then moved the adoption of the report and the dividend in accordance therewith, payable, free of income tax, on the 7th inst.——Alderman Sir C. Whetham, a director, seconded the resolution, which was carried unanimously,

A sum of 20 guineas each was voted to the auditors.

The meeting was then made special, when the Chairman moved a resolution to create and issue the shares in the manner stated in the report; and the same having been seconded, was, after questions had been put by shareholders and answered by the Chairman, put to the meeting, and carried unanimously.

Some formal resolutions altering the Articles of Association were also passed unanimously, and a vote of thanks to the Chairman, directors, and manager, brought the proceedings to a close.

NEW ROSARIO SILVER MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, East India Avenue, on Monday,

General Davison in the chair.

The Secretary read the notice convening the meeting.

The circular stated that the directors having received a communication from Mr. Cumins, recommending that three of the setts held by this company—San Pedro, Rosario, and Encarnacion—should be given up to the Mexican proprietors, as their retention will entail an unproductive outlay, whilst the Providencia sett, now being worked, is of sufficient extent and importance to justify the sole attention and resources of the company being devoted to its active development, the directors think it desirable before authorising Mr. Cumins to carry out his suggestion that they should consult the shareholders on the subject.

The Chairman said the question before the meeting resolved itself into a very small compass—the disposal of the three mines mentioned in the circular issued to the shareholders. On the one hand, those properties might not turn out to be of value, and on the other hand this company had the Providencia Mine, which was believed to be very valuable. Should the shareholders determine to keep these three mines it would be necessary to expend 1000*l.* to 1500*l.* a-year, while they at present required all the money they had for the Providencia. Of course, the board were guided in this matter by Mr. Cumins, therefore he would read what Mr. Cumins had written upon the subject. The purport of the document was that either the mines in question should be worked or returned to the Mexican proprietors, who urged that it was contrary to reason to suppose that the company should keep the mines for an unlimited period unworked, and that it would be better they were returned, or otherwise they might be denounced. He (the Chairman) added it would be most unwise to spend the money the company had in prosecuting these properties, and moved—

"That in accordance with the recommendation of Mr. Cumins, the three following setts or mines belonging to this company—San Pedro, Rosario, and Encarnacion—be now given up, and the directors are hereby empowered to give up the said setts accordingly."

Mr. Swaffield said it was a most disappointing state of affairs to propose to abandon mines that had cost 20,000*l.*, and paid 20,000*l.* in preliminary expenses without receiving any equivalent. In the circular issued by the board the lode was stated to be of a profitable character, and the shareholders had been continually buoyed up by promises as to the future

A Shareholder asked if there had been any correspondence with Mr. Potts?

Mr. Tanner replied in the negative. He reminded Mr. Swaffield that nearly all the present board had come in since the company was started; moreover, Mr. Swaffield himself spoke at the last meeting in very flowery terms of the Providencia. The object of the directors was to secure all the money they could, and apply it to the Providencia; in that respect they were doing what Mr. Swaffield seems to wish.

A Shareholder was sure the mines could be sold instead of being simply handed back.——Mr. Tanner said that was not the case.

A Gentleman, representing Mr. Gower, protested against the passing of this resolution. Mr. Gower was in frequent communication with Mr. Potts, who had never alluded to the giving up of those mines—in fact, had always maintained the company should keep them.

The Chairman reminded the meeting how deeply the board were interested in the company; it was not likely they would do anything to damage their own interest.

Capt. Petherick (who was introduced to the meeting as a long resident in Mexico, and as an independent witness) said he had no doubt the mines the company proposed to abandon would be valuable in depth, but the company had no money to develope them; it was quite possible for the Mexican Government to grant them an extension of time without working them, as he maintained the mining laws in Mexico were as fair as anywhere, while Englishmen were in better odour than the Mexicans. He believed the Providencia was on the point of becoming productive.

Mr. Swaffield, after some further discussion, in which no new point was introduced, proposed as an amendment that the consideration of the question be deferred for a period of three months. The amendment was seconded and lost. The resolution was put and carried.

A vote of thanks to the Chairman and directors closed the proceedings.

CHONTALES CONSOLIDATED MINING COMPANY.

A general meeting of shareholders was held at the City Terminus Hotel, on Tuesday,—The Right Hon Earl Nelson in the chair.

Mr. J. J. Truran (the secretary) read the notice convening the meeting. The report of the directors (which appeared in last week's Journal) was taken as read.

The Chairman assured the shareholders the directors were as much disappointed as any shareholder could be that the state of the company should be a gloomy one. The board were quite unable to say what had occasioned the extra loss of 195*l.* upon the past month's operations, especially as no report or letter had been received from the manager by the last mail. When looking at the present position of the company, he thought it clearly traceable to two causes. One was the great loss in the reduction of the ores. For a long time the directors had been disappointed at the low yield. At first they thought it was from the fact that the manager was working the mine in a strictly miner-like manner, the ore being returned irrespective of value, but as the low yield continued they sent out to Mr. Smeddle in March a concentrator, begging him to get it in use as soon as possible in order to see if they could get more gold out of the ore. Mr. Smeddle, however, did not seem to think there was anything wrong in his treatment, at the same time wrote to say that it would be very easy to put it up at Estrella Mine as soon as the pneumatic stamps were actively set to work. But the concentrator was not in operation yet. They then asked Mr. Smeddle to send home some tailings in order that they might be assayed. In the first instance 2 ozs. only were received, which upon assay showed the presence of a considerable quantity of gold. Mr. Smeddle was then telegraphed to, asking him to send home some pounds weight of the tailings. The average of the eight assays made by different assayers had been 9 dwts. 12 grs. of gold per ton, whereas the first treatment yielded only 3 dwts. per ton. It seemed the process had been reversed. It must not be imagined that in treatment all the gold these assays gave would be extracted, still the result had been such as to lead to the expectation that by improved treatment at least more satisfactory results would be realised. Could they get only 4 dwts. per ton instead of 3 dwts. it would become a paying company. The second reason for the present position of the company was—although at the last meeting there had been no reason whatever for diminished confidence in Mr. Smeddle, there was no longer any doubt that he had for some unexplained reason delayed putting up the pneumatic stamps and concentrator; other things had tended to take away their confidence in Mr. Smeddle. There was not the slightest doubt from circumstances there did not appear to have been such business energy as hitherto. It was quite possible when Mr. Smeddle wrote that he thought of coming home, which took the directors by surprise, he felt his energy was giving way, and that it was good for the company he came back. The directors wrote asking him to stay until the end of the year, and put up the pneumatic stamps. Mr. Smeddle had written he was willing to do that, and hinted that someone had better be sent out, even if he came back only for a time. The directors had asked Mr. Smeddle if the reason he wanted to come home was that he had lost heart in the mines? Mr. Smeddle assured the board that that was not in any way the case, but having had a great deal of trouble and trial he felt he must have some rest. If the board were right in attributing the present position of the company to those two causes, he maintained the board had been right in the course taken—to send out a person to succeed Mr. Smeddle—a person who understood reduction works; they had reason to believe that Mr. Danby, who had gone out, would satisfy them. Mr. Danby was a thorough chemist, a civil engineer, and had had the management of a company. The directors begged Mr. Danby not to send home a hasty report. Mr. Smeddle would stay with Mr. Danby for a fortnight. They would have the advantage of a new man to report upon the mines, in addition to what Mr. Smeddle would have to say. The shareholders ought not for a moment to despair of the position of the company. There had been many disappointments, but if the directors were right there was really no cause for despair. He was certain they had taken the best possible course to get over the last disappointment. Himself and his very able colleague, Mr. Parke Pittar, were the two directors who retired from office as directors, and would ask the meeting to re-elect them. He had had a letter which he answered, in which he was asked whether this was not a bubble company. He thought no company that had been kept going for four years by returns from the mines, although latterly at some little loss, could be called a bubble company; besides which, the directors held personally over 2000 shares, and were entrusted by proxies from other shareholders representing 19,000 shares. They might be disappointed, but certainly they could not be called a bubble company. He felt that with the board the shareholders had elected to assist him, he could carry out any amount of work in connection with the mines, no matter how arduous or difficult the task. (Hear, hear.) He then moved that the report and bulance-sheet be received and adopted.

Col. Perceval seconded the proposition.

The Chairman, in reply to questions, stated that the new manager left on Nov. 17.

The Rev. J. Browne considered the explanations of the Chairman were perfectly satisfactory. Personally he was thankful the loss had not been greater; in the result of the tailings there was the greatest possible hope. He still believed the company would be a paying one. He had the most perfect confidence, and ever had. The name of his lordship first induced him to join the company, and he was perfectly satisfied with the other directors.

The Chairman, in reply to a question with regard to the Pavon Mine, said that Mr. Smeddle had proposed a scheme for driving an adit at the Pavon Mine by which they would be able to tap all their mines at a lower level.

The Chairman, in reply to further questions, said that Mr. Smeddle had never complained of want of labour.

The report and accounts were received and adopted.

Col. Perceval had much pleasure in proposing the re-election of Earl Nelson and Mr. Parke Pittar as directors.——The Rev. Mr. Browne had much pleasure in seconding the proposition. He was sure the shareholders could not place their affairs in better hands.

The resolution was put, and carried unanimously.

Mr. Moates was re-elected auditor.

The Chairman said that Mr. Danby would get out to the mine about the latter part of December, and would have a fortnight in January with Mr. Smeddle, who would come home by the January mail. They might look for a full report from Mr. Danby in March.

A vote of thanks to the Chairman and directors closed the proceedings.

BEDFORD UNITED MINES.

At the four-monthly general meeting of shareholders, held at the offices of the company, on Tuesday (Mr. R. McCallan in the chair), the accounts, which had been previously circulated among the shareholders, showing a cash balance in hand of 436*l.* 10s. 5d., and a balance in favour of the mine of 700*l.* 16s. 6d., were passed and allowed. The special general meeting, convened for the purpose of declaring forfeited any shares upon which calls were due, was not held, there being no shares to forfeit. With regard to the balance in hand, the Chairman said it had been contemplated that a small dividend would have been declared, but in consultation it had been determined to adopt the wiser course to apply the surplus funds towards the extension of operations at the mine. He was very pleased to meet the shareholders on this occasion, as the balance-sheet showed that they were in a better position than they had been for many years, and from what he could learn from the report and information afforded him the prospects at the mine induced the belief that permanent dividends were not far off. He said the accounts had been brought up as close as possible, and he was glad to see that the merchants' bills had been pretty well cleared off.—A Shareholder asked if there were not other points in the mine worthy of a thorough trial?—Capt

PHILLIPS replied that they had a very extensive sett, and there were lodes tried and untried that deserved the attention of the shareholders; and as the present funds of the company were likely to be increased by further profits, he should give his consideration to the most promising parts of the property.—The SECRETARY read the report of Capt. Phillips, who gave the shareholders much valuable information by referring to the various points of operations in the plans laid on the table. A resolution was passed empowering the committee to dispose of the forfeited shares in such manner as they may deem desirable.—The CHAIRMAN said: Before we separate I beg you will allow me to propose a vote of thanks to our manager, Capt. Phillips, for the able manner in which he is carrying out the development of the mine. For ten long years have we been struggling on to bring the mine into a profitable position, and yet in face of all kinds of difficulties, continual calls, and many other disagreeables appertaining to this source of investment, he has urged us on to believe that good times were in store for his co-adventurers. I hope that he may yet see many years of continued prosperity, and that his connection with our mine may be a long one.—Capt. PHILLIPS briefly responded to the compliment paid him, after which a vote of thanks to the worthy Chairman terminated the proceedings of the meeting.

SOUTH CARADON MINING COMPANY.

At a general meeting of shareholders, held at the mine on Nov. 30 (Mr. RICHARD HAWKE in the chair), the accounts for the seventh, eighth, and ninth months showed a profit of 1739*l.* 14s. 4d. A dividend of 2*l.* per share was declared, and the balance of 2203*l.* 13s. 9d. carried to credit of next account. The following report was read:—

Nov. 30.—Since our last meeting I am pleased to inform you that we have set our new 70-in. cylinder engine to work, which has forked the water to the bottom of Rule's south shaft, enabling the men to resume driving the 170. In doing this we have drained what we believe to be the same lode in the eastern part of the mine, a distance of more than 200 fms., and is to us an indication of good results. We have also commenced operations in driving two levels, the 200 and 210, in the West Caradon ground, but being very near the cross course do not expect much ore until we get through it. I am happy to add that we have recently intersected a side lode in the eastern part of the sett, which has a good appearance, and the mine throughout continues to present features of a pleasing and permanent character.—JOHN HOLMAN.

GREAT SNAEFELL MINING COMPANY.

The annual general meeting of shareholders was held in the St. James's Hall, Douglas, on Nov. 24, Mr. H. B. NOBLE (chairman) presiding. There were also present Messrs. A. W. Adams, P. Killey, G. Barber, J. Quine, R. Roney, E. T. Quiggin, T. Brew, T. Fisher, G. Maley, T. Caley, S. Clarke. J. C. Fargher, W. E. Young (secretary), and Capt. James (agent).

The CHAIRMAN read the notice convening the meeting, which stated that the business was to receive the report of the directors and agent, a statement of accounts, to elect two directors and an auditor for the ensuing year, and to transact the general business of the company.—The SECRETARY read the reports.

The statement of accounts, which had been circulated among the shareholders, was taken as read. It showed that the total receipts had been 2467*l.* 14s. 4d., including 116*l.* 8s. 5d., the balance of account as passed at the previous meeting. The labour cost for the year amounted to 1969*l.* 16s. 11d., and merchants' bills to 386*l.* 2s. 3d. The balance brought down was 384*l.* 17s. 6d. The liabilities of the company amounted to 550*l.* 14s. 2d., and assets to 983*l.* 15s.

The CHAIRMAN: Geutlemen, I will just make a few remarks. The operations at the mine at present are mainly confined to the 100, driving north and south of the shaft. I am very glad to be able to congratulate you on the very important discovery that has been made in the 100 north, proving, as it does, what mining engineers have all, with one exception, said, that if Snaefell is prosecuted downwards it will become a great and good mine. You will observe that the 74 and 85 fathom levels have been suspended, but not abandoned. The suspension is with the concurrence of your manager, who, from a financial point of view, agrees with the directors that to sink the shaft 10 fms., and drive the level under the ore ground in the 100, would be more advantageous than pushing on with these levels at present. If it should prove that the ore in the 100, as prosecuted downwards, is found in a more solid position, the mine will at least be self-supporting, and the 74 and 85 fm. levels can be resumed. I do not think that I need detain you any longer with any further remarks. The report of the agent I consider very encouraging. Capt. James is present, and he will answer any questions any shareholder wishes to ask him respecting the mine. He has brought samples of lead to be exhibited, which were taken from the 100 fm. level yesterday. If the shareholders will, after the meeting, walk to the office of the company they will there see for themselves what the lode in the 100 produced yesterday. There are also some specimens on the table here which were taken from the level. It only remains for me to move that the accounts and reports be passed, and that, with the minutes of this meeting, they be printed and circulated among the shareholders.—Mr. J. QUINE seconded the motion.

The CHAIRMAN: Now, gentlemen, it is for you to ask any questions.

Mr. BARBER: Is there still a large amount of arrears of calls unpaid?—The SECRETARY: Since that account was sent to the shareholders about 300*l.* had been paid.—Mr. BARBER: So there are still nearly 700*l.* out.—The SECRETARY: No; 640*l.*

Capt. JAMES, in reply to a SHAREHOLDER, stated that there were ribs of ore running through the 100 up to 3 or 4 in. wide.

Mr. MALEY: How many calls are yet to be made?—The CHAIRMAN: 17s. 6d. per share has been called up. There is one call yet to be made of 2000*l.*

Mr. MALEY: That will just run another 12 months, I prophesy.

Mr. QUINE: Is there no ore ready for dressing?—Capt. JAMES: Until we get into more lengthy ore ground it is not advisable to commence dressing.

The CHAIRMAN: We have about 11 tons of lead in the lead house, and from 50 to 60 tons of blende ore. We have suspended the washing because the stuff coming out was not very valuable—hence it was costing something more, and we thought it better to suspend the washings until we got better ore. We are continually accumulating ore, and while we can dress it at a future time at a less cost it is advisable to do so.

Mr. MALEY: When do you purpose sinking the shaft?—The CHAIRMAN said that Capt. James's reports seemed to encourage that being done, but they considered it advisable to wait until they saw how the 100 fm. level turned out.

Mr. MALEY: I think the shaft should have been sunk long ago.

Mr. ADAMS: When you are at a critical time, very nearly at the end of your money, it is better to spend it as you think best.—Mr. MALEY: There is plenty of money to let it go down 11 fathoms yet.

Mr. QUINE: I understand that the shaft now is only about the depth of what they call the Day level at Laxey. I have not the slightest doubt ore is there.—Capt. JAMES: There is a rise in the hill from Laxey to Snaefell. Every sinking will take you down to a better class of ground. No doubt the deeper the mine the richer the deposits of ore will be.

Mr. ADAMS: I think we should not exhaust our capital in fiddling here and there. I think the great thing is to test the 100 still further before you begin to sink.—Capt. JAMES: I am informed that the lead being got now at the top of the lode indicates symptoms precisely the same as in the Dumbell's shaft in the Great Laxey Mine. We are now driving through a very nice pipe of ore. No doubt, if we follow down, it will make a good mine.

Mr. FISHER: What would it cost to put the shaft in 10 fathoms?—Captain JAMES: Somewhere about 350*l.*—The CHAIRMAN: That is for labour only, not for timber, &c.?—Capt. JAMES: Merely for labour.

The CHAIRMAN: The next call will be quite sufficient to enable the directors to put the shaft down 10 fms. If the 100 in the meantime produces better the other two levels can be resumed, and operations made in all these places. One or two levels have only just been suspended, so there has been no time lost yet in sinking the shaft.—Mr. MALEY: I consider the sinking of the shaft the best part of the mine.

Mr. ADAMS: I am sorry to say that I am more deeply interested in the mine than I ought to be. It is my most devout hope that it will turn out well. I must say I feel much more hopeful now than I did some time ago. It is my opinion that the mine looks much better now than it has done at any other time.

The CHAIRMAN: I have no doubt that before we spend our money we shall be amply rewarded. It has been longer than we anticipated at first, yet we have had all along the greatest encouragements in every level.—The motion as to the passing of the accounts, &c., was then put, and was unanimously carried.

The CHAIRMAN: The next business is to confirm the election of Mr. Richard Roney, whom the directors have elected as a director in the place of Mr. William Berry, who is now disqualified. Mr. Roney was a shareholder in the old company, and I can state with confidence that he has taken a considerable interest in the mine. I am quite sure he will be a very eligible director.—On the motion of Mr. KILLEY, seconded by Mr. BARBER, the election of Mr. Roney was confirmed unanimously.

The meeting then proceeded to the election of two directors. It was explained that the retiring directors were Messrs. James Spittall and Robert Corlett, who were eligible for re-election. Mr. R. Corlett was unanimously re-elected, and on the motion of Mr. MALEY, seconded by Mr. CALEY, Mr. W. F. Moore was appointed a director.—Mr. KILLEY moved that Mr. James Hanning be re elected auditor.—Mr. BARBER seconded the motion, which was carried unanimously.

The CHAIRMAN: This winds up the business of the company, with this exception, that I hope none of you will leave Athol-street without calling at the office to see the specimen of lead, which will show you that the 100 fm. level is very promising, and very worthy of congratulation on your part. Mr. Barber has expressed a wish that the arrears should be got in. I believe every shilling of them is good, and no effort shall be wanting on the part of the directors to get them in.

Mr. KILLEY, in moving a vote of thanks to the directors, expressed a hope that by the next meeting they would be in a position to pay them some remuneration for their trouble.—Mr. FISHER seconded the vote, which was carried with acclamation.

Mr. ADAMS: In returning thanks as one of the directors, I can only say that I have really much greater confidence in the position of this mine now than I had some time ago. I have a large interest in the mine, and have but one motive—to get at the ore; and I feel much more hopeful at the present time than some considerable time ago. If you look at the results of the different levels, at what has been done in the 75, the returns of the 85, and the great improvement in the 100, I think there is no question that things look much more hopeful than at the beginning. The different shareholders have various opinions as to what should be done. This is the time to say what ought to be done, and it appears to me that your unanimous opinion is that the correct thing is to use any little remains of our capital in developing that part where there is the best hope, instead of squandering our money. If the mine continues to improve in the 100 as in the last 10 fms., there is no doubt we will be justified in sinking another level. It would be very unfortunate if after spending 17s. 6d. out of 21., we were suddenly to come to a stop at the eleventh hour when things are getting more hopeful. I beg to thank you, gentlemen, for your vote of confidence.

Mr. MALEY: My opinion is that you are not deep enough in that mine, and to make a mine of it you must go considerably deeper.—Mr. ADAMS: I wish I we had double our capital, and then we would go on without stopping.—The CHAIRMAN: As far as I am concerned, I shall endeavour to continue my efforts for the benefit of the company. I thank you for your vote of confidence in the directors.

A vote of confidence was then passed to the agent, and in reply Capt. JAMES said he thought that if the mine was persevered with, from the indications in the 100 fm. level, there was yet a profitable mine for the shareholders. He did not hesitate to say that he had every belief in the mine turning out well. In driving the 100 fm. level they must follow out the run of ore. The great deposit was in the deeper levels. Although they had about 65 fms. of ore ground to drive through, if they did not do anything he, as a miner, would not be disappointed. If the mine was followed down as in the 100 fm. level it would lead to a great and lasting benefit. If was not done by the present shareholders it would be done by others. If the mine was followed up, it would in the course of a short time turn out to be a profitable concern.—The proceedings then terminated.

WAYNE'S MERTHYR STEAM COAL AND IRONWORKS.

An ordinary general meeting of shareholders was held, on Tuesday, at the offices of the company, Great Winchester-street Buildings. Mr. G. H. ERICHSEN in the chair.

Mr. H. W. DAVIDSON (the secretary) read the notice cailing the meeting, and the directors' report, which was taken as read, was as follows:—

The directors submit the balance-sheet and profit and loss account for the six months from March 1, 1875, to Aug. 31, 1875. From the same it will appear that the debenture debt of the company had up to that time been reduced to 95,000*l.*, since then bonds for 2500*l.* have been drawn and paid on Sept. 1, thus now reducing the debt to 92,500*l.* On account of the 12 per cent. preference capital shares of the value of 930*l.* have been redeemed, and the further reduction, in accordance with the Articles of Association, will be made for the six months referred to above. After making provision for the customary reduction of suspense accounts, a profit balance of 19,199*l.* 8s. 1d. is shown, which amount, after providing for interest and redemption of the 7 per cent. debentures, as shown by the balance-sheet, leaves a net balance of 12,818*l.* 9s. 1d. Under ordinary circumstances the sum of 6000*l.* out of this balance would have been applied towards paying an interim dividend of 6 per cent. on the preference shares. Considering, however, the present unsatisfactory state of both the iron and coal trade, the directors deem it their duty not to divide the full amount of 6000*l.*, but to restrict the interim dividend on the preference shares to 3 per cent. for the half-year ending Aug. 31, 1875. The balance to be carried forward will thus be 9818*l.* 9s. 1d., and whilst it is to be hoped that a portion of this amount will accrue to the preference shareholders when the financial year of the company closes on Feb. 28. 1876, the directors have deemed this caution necessary, considering the claims upon the company for inerest on and redemption of the 7 per cent. debentures.

The CHAIRMAN said: Gentlemen, in addition to the report I have very little to say, except to deplore that the times are very bad, but we must hope for better. If there is any point in the report and accounts upon which any gentleman desires information I shall be happy to give it to him.

Mr. RODEWALD said that there was a considerable amount carried forward and not distributed to the preference shareholders, he should, therefore, like to know whether anything was apprended or likely to take place to take that money away, or to render it necessary to reserve it?—The CHAIRMAN said the directors only apprehended that trade might not improve; he was not afraid that it would get worse, but if it did not improve by the end of the financial year it was well to be prepared, so as to be able to pay the interest on the reduction of the debenture debt.

Mr. RODEWALD: The price of coal is very low now.

The CHAIRMAN: It is, but compared with some other collieries we are not so very badly off. If there is no improvement in trade there is no saying but what we may be compelled to work at a small loss, and the question may arise one day whether we may not be compelled to shut up the pits, or work at a small loss. Shutting up the pits is a serious matter. There are collieries in the neighbourhood who do not hesitate to say that they are working at 1s. 6d. to 2s. per ton loss. We have not got to that yet.

Mr. RODEWALD asked whether the output was good or the price bad?

The CHAIRMAN said it was a combination of the two. The output for the last six months was double the output of the corresponding six months of the previous year, but as things were now they were obliged to restrict the output.

Major-General BROWN asked whether the output for the three months which had elapsed since the closing of the accounts had been less than in the previous three months?—The CHAIRMAN said it had been less: there was a considerable falling off as compared with the previous six months. Up to August 31, 1875, the output was 182,030 tons, and for the corresponding period of 1874 it was 90,271 tons. For the three months from Sept. 1, 1875, the output was 44,733 tons, and for the three months from Sept. 1, 1875, 45,212 tons, so the output was about the same. The price was also very much lower since August 31.

Major-General BROWN asked how it was that the balance-sheet of the six months previous to the last six months was so good?—The CHAIRMAN said they took over from the old company many old contracts, under which there was a large quantity of coal delivered at a high price.

Major-General BROWN said it looked as if very prosperous days could not be expected.

The CHAIRMAN said he had never known such good and prosperous years as 1872 and 1873, nor such an adverse year as 1875. As regarded the ironworks the directors did not see their way to make iron at a profit, and, therefore, they did not make it. There was a question with the directors, however, whether it would not be advisable to start one of the blast-furnaces for the purpose of keeping the old customers together, so that when good times came for iron the company might not be left without customers. It was a question, however, which would require ample consideration.

In answer to a further question, the CHAIRMAN said that coal could be sold at cost price, but not at a profit. But there was no branch of trade which could go on at a ruinous rate forever, and, as he had said, they must hope for better times. He moved the adoption of the report and accounts.—Mr. W. D. RYRIE seconded the resolution, which was put and carried.

The CHAIRMAN then moved that an interim dividend of 3 per cent. be paid to the holders of the 12 per cent. preference shares, which was seconded by Mr. A. NICHOLSON and carried.

On the motion of Major-Gen. BROWN, seconded by Mr. RODEWOLD, a vote of thanks was passed to the Chairman and directors, and the Chairman having acknowledged the vote the meeting broke up.

WEST CRAVEN MOOR LEAD COMPANY.

The statutory meeting of shareholders was held at the offices, 2, Gresham Buildings, Basinghall-street, on Monday, Mr. EDWARD HILTON in the chair.

Mr. GRANVILLE SHARP (the managing director and secretary) read the notice convening the meeting.

The CHAIRMAN said that this meeting was formal in its character. A short time only had elapsed since the inauguration of the company, but the progress made was highly satisfactory. He thought they might safely say they had a good mine, good management, and plenty of money subscribed to carry it through.

The report of the directors was read, which stated that "the directors congratulate their fellow-shareholders on the successful formation of this company, and more particularly on account of the important ore discoveries already made, which cannot but be considered highly satisfactory."

Mr. HEARD asked if sufficient lead was being raised to pay expenses?—Mr. SHARP said that could not be expected at present, but even that could be done if they curtailed operations. The lode in one shaft was worth 20*l.* per fathom, and in another was producing over 2 tons per fathom.

Mr. HEARD asked what were the present returns?—Mr. SHARP said they had not yet made any sale, there was ore at the smelting-house, as well as other at surface ready for being dressed

Several reports were read describing the points of operation.

Mr. SHARP, in reply to a question, stated there were only 150 shares unallotted, and it was the intention of the directors not to allot them, at all events for the present, having more money at the bankers than was likely to be required for some time to come: 2000*l.* had been placed on deposit account. It was left to the discretion of the directors to allot those shares at any time—they were so empowered by the Articles of Association. As soon as the Black Hill adit had been driven under Ashworth's ground there seemed reason to think the mine would be in a paying condition, and that would not be many months first.

Mr. HEARD asked who would benefit by the premium should the unallotted shares be sold at above par?—Mr. SHARP said the company most decidedly.

Mr. SHARP said that by driving the Black Hill adit to the eastern boundary, and cross-cutting the various lodes, they would have a mountain of mineral wealth that could be taken away without the aid of pumping machinery. That would take about six or eight months to drive the level under Ashworth's ground. Should the season be mild he thought in about six months they would be able to get to the 20 fm. level in the two new shafts, and commence driving on the veins; they would then have 20 fms. of backs for about 45 fms. in length.

Mr. SILVERSIDES said that until the shafts had been sunk there could not be any very great development, and sinking was slow work. When once down he did not think shareholders would have to ask when returns would be made.

Mr. JOSIAH HITCHINS considered a great deal had been done since they began, and the discoveries made bore out all he had previously stated. The great point was to bring in the Black Hill adit which would unwater the ground, for a depth of certainly 40 fms. The lodes as far as developed had all the characteristics of being very productive at a little increased depth. He thought by driving the Black Hill adit level eastward and coming under the old workings in Ashworth's ground a permanently valuable mine would be opened out—that is, as far as his experience went, based upon the character and conditions of the lodes and their associative rocks. There are several lodes upon which they will be able to drive when they get the level in. The level north and south has the advantage of being extended upon cross lodes very cheaply and expeditiously. The Black Hill adit will be a drainage level, admitting of the ground being worked to every advantage without pumping aid, effecting such important saving that should not be overlooked. As far as his experience went he never saw success more clearly in view. The success of the mine does not depend upon one lode only—there were various lodes known to be productive in the adjoining mine, and some of them traversed the entire extent of West Craven Moor Mine. They could not have more safe conditions than these. He believed the prospects upon which this mine was started would be realised to the full extent of his expectations

The CHAIRMAN said that was a very great deal, coming from Mr. Hitchins, so well known an experienced mining authority.

Mr. HITCHINS said that was the result of his conviction.

A vote of thanks to the Chairman and the directors concluded the proceedings.

[For remainder of Meetings see to-day's Journal.]

EMERY WHEELS.—The features of novelty in the invention of Mr. BOLLMAN, of Vienna, consist in making emery wheels of an annular form, and using only the bevilled edge as the grinding surface, such annular emery wheels being carried in and protected by a metallic drum or casing revolving in bearings at a suitable angle, whereby such emery wheels may be driven at much higher speeds than has hitherto been attainable with safety; in a novel application of water jets to the opposite side of articles undergoing the grinding process for the purpose of preventing their becoming over-heated; in a special construction of band spring shield adapted to all classes of emery wheels to break the force of any fractured portion of an emery wheel flying off by centrifugal force; and in a novel description of steel disc or cutter serrated on its periphery, and its application in the manner described to the purpose of turning, facing, or trueing the grinding surfaces of emery wheels.

APPLICATION OF MECHANICAL MEANS TO THE SINKING OF PITS AND DRIVING OF TUNNELS IN ROCKS.

This paper is a continuation of one commenced by M. Pernolet in 1872. Since that time the use of mechanical appliances for these purposes has considerably extended; various improvements have been made, and several new varieties of apparatus introduced.

The subject is treated at great length under four principal headings, the first portion of the paper being devoted to the consideration of the means employed for the production and distribution of compressed air. The actual amount of work which can be obtained from these machines may be judged by the fact that the force stored up in the compressed air reservoirs by a Sommeiller compressor is only equivalent to from 35 to 40 per cent. of the steam power employed, and that the useful effect produced by the borers themselves amounts to only 20 to 25 per cent. of the steam power expended.

A considerable number of the most generally employed compressors are described at length, a comparison being instituted between machines into which only the air to be compressed is admitted and those into which a jet of water is at the same time introduced. The relative cost of compressing air by the various machines is also carefully considered, the results at Ronchamp during a period of six months showing that an outlay of from 0·015 to 0·02 franc is required for the production of 1 cubic metre of air compressed to four atmospheres. Each of the machines described has its advantages and its disadvantages. To facilitate the choice of the most convenient form of apparatus for any particular case, a table is given showing the size, price, and other details of 12 varieties of compressors.

The second portion of the memoir is devoted to perforators, percussion apparatus, pits, and various accessories, a series of tables being given showing dimensions, weight, power, and consumption of compressed air by the three newest perforators—namely, those of MM. Ferroux, Burleigh, and McKean. For very hard rocks the latter is especially recommended, whilst for simplicity of mechanism the perforator of MM. Dubois and Francois is to be preferred. Neither of the machines is, however, applicable to all purposes, and the choice of a perforator must be, to a great extent, governed by the description of rock likely to be met with. The bits vary in form according to the hardness of the rocks to be traversed, the Z form being used in soft rocks, and for harder rocks a bit with the cutting edges forming a right angle. The perforators are mounted, to the number of from six to ten, upon a carriage, the form most recommended being that of Marihaye.

The third portion of the memoir describes exhaustively the organisation necessary for carrying on work with mechanical perforators and various details of matters connected with the practical carrying on of mechanical boring are discussed.

The fourth and last portion of the paper consists of a comparison between the results obtained by hand boring and those realised by mechanical means, the data necessary for the comparison being taken from works carried on at the following localities—Mont Cenis, Vieille-Montagne, Saarbrück, St. Leonard, Marihaye, Ronchamp, Anzin, and St. Gothard.

In conclusion, the author remarks that the form of the gallery is more regular when mechanical borers are employed; that the daily progress, varying according to the number of perforators and the hardness of the rock is from three to twelve times greater than with manual labour. More men are required when working by machinery as compared with hand labour, but considerably less skill. The economy obtained by the use of mechanical perforators ranges between exceedingly wide limits, varying from 7s. 1d. to 74s. 4d. for each yard driven, or from 7¾d. to 18s. 9d. per cubic yard of ground excavated. Mechanical borers are strongly recommended for large undertakings, whilst for smaller work, extending over a considerable time, the advantages over manual labour appear, if they exist at all, to be reduced to a minimum,

This paper is accompanied by a number of elaborate tables relating to the cost and efficiency of the various kinds of apparatus, and by eight large plates showing details of the machinery described.

—A. PERNOLET, Bulletin de la Société de l'Industrie Minérale.—A. G. P., *in Proceedings of the London Institution of Civil Engineers.*

THE SCOTTISH AUSTRALIAN MINING COMPANY.

The following is an extract from "The Bulletin" (newspaper), published at Rockhampton, in Queensland, of July 27, 1875, in reference to the mineral property on the River Dee, in that district, belonging to the above company, and was issued to the shareholders with the directors' report:—

THE DEE COPPER MINE.—Brief notices of this mining property have occasionally appeared in our columns during the past year, but we are happy to state that the time has now arrived for giving it a more prominent place, as a speculative investment promising good dividends to the proprietors, and increase of trade to Rockhampton and the surrounding district. Having heard a few days ago that the mine was about to be worked, we applied to Mr. Morehead for reliable information on the subject. This resulted in a full confirmation of the report, and an invitation from Mr. Morehead and Capt. John H. Holman to visit the mine, and after a personal inspection to give our candid opinion as to its value and prospects. The invitation was gladly accepted, and on Saturday last we proceeded to the mine, in company with Capt. Holman, who had provided two excellent hacks at Westwood, with plenty of "go" in them, which enabled us to do the whole distance between that township and the mine, 16 measured miles, in less than two hours, although much of the course is over ridgy, stony country. The road is a fair one, with scarcely one bad pinch for the whole distance—thanks to the very creditable improvements effected on it by the roads department, under the direction of Mr. Jardine. Sidings have been cut down, and crossings made to creeks and gulleys, so that a dray meets with no serious obstruction, and can do the journey from Westwood railway station to Capt. Holman's tent with ease in one day. But the road does not go far enough, and it would be unwise of the Government, after having done so much to connect the mine with the railway, to stop short, when a small additional expenditure of some 400*l.* or 500*l.* would suffice to complete the job. However, we shall revert to that subject by-and-bye.

For the information of those of our readers unacquainted with the history of the mine, we may state that the mineral sections in question originally formed a part of Calliungal, are located on the southern slopes of the Dee ranges, are distant from Calliungal head station about 7 miles, and from Westwood 16 miles in a south-easterly direction. A stockman employed on the station some three years back, riding over the ground observed a large outcrop of some description of mineral, and although not knowing what it was, he felt convinced that the discovery was of some value. At that time the mining mania, which has since involved so many in commercial ruin, was at fever heat in Sydney, but M'Kinlay did not know his opportunity or he might have quickly become possessed of thousands of pounds by the sale of his right to the ground. M'Kinlay afterwards parted with his interest to a man named Hamilton, and we next find that two selections were taken up under the mining regulations, and registered as Nos. 59 and 60, in the joint names of Hamilton, Carlos Birbeck, Brown, and R. M. Hunter, and it remained in possession of those gentlemen until purchased by the present owners.

Some 18 months ago Captain J. H. Holman arrived in Rockhampton on a prospecting tour, under instructions from R. A. A. Morehead, Esq., of Sydney, who represents the Scottish Australian Mining Company. It may be stated in passing that this company owns the celebrated Lambton Colliery at Newcastle, N.S. Wales and other mining properties in Australia. Another company of similar title, also represented by Mr. Morehead, owns a large number of squatting properties in this and the southern colonies. We believe, however, that the operations of the two are entirely distinct, and we merely state the facts to avoid misapprehension. To proceed with our narrative, Capt. Holman arrived here, commissioned by Mr. Morehead, to look out mineral lands offering a good prospect for remunerative investment. He had not been long in the district when the Dee selections held by Hamilton and partners were brought under his notice. He visited the ground, and was so far satisfied that he at once entered into negociations for the purchase of the right to work the land. The sum of 2000*l.* was ultimately agreed to, and on Capt. Holman's recommendation, Mr. Morehead, on behalf of the Scottish Australian Mining Company, advanced the cash in full, and the purchase was at once concluded. These selections together comprised 254 acres, No. 59 containing 160 acres, and No. 60, 94 acres. Capt. Holman, as soon as practicable, brought some miners on the ground, and selected for his first experiment a spot near the western extremity of the selections, where there was a remarkable outcrop of copper, which could not have failed to strike the attention of the most ignorant observer. The outcrop was principally on the eastern slope of a high ridge, and here Capt. Holman drove a tunnel 130 ft. into the hill, following the course of the lode and keeping it for the entire length of the drive. The sides of the tunnel are formed of the walls of the lode, which are about 5 feet apart, and remarkably well defined. The lode itself turned out good ore all through to the furthest point reached, the whole comprising about 20 tons of 20 per cent. ore besides hundreds of tons of lower quality.

It being found that ventilation was necessary, an air shaft was sunk from the hill above, striking the end of the drive at a depth of 56 feet. This shaft also carried the lode throughout, and presented a good show of ore. The lode commences at surface with a width of 1 ft., and widening all the way down until at the bottom it has a width of 4 ft. On the southern side of the shaft there is a rich vein of black ore 1 ft. wide, and against the northern wall, divided from the black ore by a horse of slate, is a similar continuity of blue and green carbonates. The distance between the walls is 6 ft. In the tunnel there is a width of 5 ft. between the walls, and the ore varies in width from 2 ft. to 4 ft. The outcrop here, we should mention, is about 30 ft. wide. This locality having been so far tested with

satisfactory results, another shaft was sunk on the same line of lode ¼ mile to the eastward. This is carried to a depth of 59 ft. 8 in., shows ore all the way, and at the bottom a splendid lode fully 7 ft. wide. The ground is very soft and wet, and is at present not worked, for want of a whim to pump out the water. For 30 ft. from the surface of the ground the lode is composed of blue and green carbonates of good quality, a sample assayed showing 22¼ per cent. of copper, and at the bottom it is black ore, assay samples showing from 20 to 27 per cent. Of course these high percentages were not for the full width of the lode, but good ore has been turned out in large quantities. There are about 14 tons of good ore at grass, and lots of inferior quality. Traversing the back of the lode still easterly—and we may here remark that the shafts have been put down one ofter another in order of time as work proceeded from the western extremity of the ground along the course of the lode eastward—about 10 chains from the shaft last described, we come to another large outcrop of ore, hundreds of tons of blue and green carbonates and grey ore being actually in sight, but nothing as yet been done at this spot for want of a road. About 10 or 12 chains further east and north there is another noticeable outcrop composed of blue and green carbonates and red oxides. A shaft is being sunk here by daywork, and is now 44 ft. 8 in. down. This ore at top is 1 ft. wide, but spreads out steadily inch by inch until at the lowest point reached it shows 4 ft. width of solid yellow and peacock ore. There are about 100 tons at grass, 50 tons of which runs 20 per cent. of copper. Still walking easterly, we trace the lode for a further distance of 10 chains.

Striking off to the south about 300 yards we come upon another line taking a parallel course. This is called the Little Blow, and is altogether a distinct lode. It has a splendid outcrop of rich ore, and a shaft has been put down 47 ft. This, as well as the preceding one, was sunk by day work, but both are to be let out by contract in future. In the latter the lode shows a thickness of 2 ft., and the ore turned out will, we are assured, go over 16 per cent. without dressing, but if dressed, from 25 to 40 per cent., principally blue and green carbonates, but lots of rich grey ore intermixed. There is a heap of 60 tons of the best ore at grass, and a large quantity of second-class. The lode looks well at the bottom of the shaft. Next comes Birkbeck and party's section—to the east of Morehead's land—No. 63, 80 acres. A shaft was put down 30 ft. on the line, but failed to strike the lode; however, by driving south 33 ft. a rich lode of grey ore was struck, from 12 to 14 in. thick, and which will go over 30 per cent. as it is broken out of the ground, without dressing. The drive was found necessary, as we have described, on account of the lode being diverted out of the direct line by a clay-course, making it describe an acute angle, and instead of following a course north of east, as before, it goes south of east into a kind soft slate. The ground is easily worked in this drive, and we are informed that two men can do 8 ft. a week. The lode has only just been struck. Besides this selection, Birkbeck and party have one on the west side of Morehead's land—No. 64, 80 acres, not tried. Mr. Morehead also holds several other blocks—180 acres on the south and 321 acres on the west—not yet worked, but showing a very good lode at surface, a sample of the outcrop yielding 11 per cent. of copper. Hamilton and party have two selections—67 and 68—of 40 acres each; on the former there is a good outcrop, and Morehead has 71 acres alongside. East of Birkbeck's, No. 63, Morehead also holds three selections, respectively containing 180, 240, and 320 acres. We have now mentioned all the selections in the locality.

The outcrop on the main or north lode is traceable for over 1 mile, its course being north-east and south-west, and the whole of it is included in Mr. Morehead's land. The lode crosses a succession of ridges, and in the intervening depressions the outcrop is almost invariably strongly marked. Another lode south, but running in a parallel course, is traceable on Mr Morehead's land for a long distance, and is very rich. Of the workings on the main lode, the Yellow shaft only is very hard. The other workings are principally on the south lode, where there are four all showing good ore. There are numerous other outcrops with strong stains of blue and green carbonates, probably indicating good lodes beneath.

There is plenty of timber on the ground and permanent water. There is a fair road all the way to the camp, but the principal workings are not accessible by drays, at the same time a small expense would make them so. The road has been marked by a Government surveyor from the camp to the western boundary of the selections, and an additional 47 chains of road is required to the Yellow shaft. These roads would not cost more than 400*l.* or 500*l.*, as the country traversed is not particularly difficult. They would also serve as main roads to make all the selections accessible, leaving branch roads to be made at private expense. The Government have done so well by making the road all the way from Westwood to the camp, that it would be hardly worth while to stop short of making a complete job for the sake of the small additional outlay we have pointed out as necessary. We trust, therefore, that it will be done.

In our description of surface indications of lodes exposed to view in the various shafts and drives, and of the percentage of ore raised, we have not intentionally gone beyond the actual truth. Of course, much that we have said is subject to the veracity and practical judgment of Captain Holman; but that gentleman has not been given to "blowing," or the richness and extent of the copper deposits in the Dee ranges would not have remained comparatively unknown to the general public until now. The fact seems to be that Capt. Holman, who is a practical miner of high repute, was content that his work should be judged by results, and had no ambition to win a temporary popularity on the unsubstantial basis of mere conjecture. Mr. Morehead had probably reasons quite as cogent for maintaining reticence while experiments were in progress. He has now secured for the company on whose behalf he is acting all the best land, as far as is apparent from mere surface indications and the extent to which the country has been prospected. He has no shares to sell and no new company to float. And if there be any motive for desiring publicity it is probably with a view to convince the public and the Government that the mining properties in course of development are worth attention, and that the public interest will be materially promoted by the Government displaying a liberal spirit, and making the roads necessary to facilitate the conveyance of the ore from the mine to the ship's side. It is intended to ship the richer ores to England, which can be done at 10*s.* per ton by direct ships. For the poorer ores smelting furnaces will be erected on the ground.

Before concluding our somewhat lengthy sketch, we shall not omit to mention that arrangements are in progress for working the Dee Mine. For the present everything is to be done by contract, and provided work is tendered for at reasonable rates no offers will be refused. A splendid opportunity is, therefore, open for good practical miners, who may be sure of getting as much work as they can do—but, again we would state, all work will be contract. There is a large supply of tools and material on the ground, which will be found as required; also a blacksmith's forge, stores, and other conveniences. As a pleasing sign of progress, we observe that Capt. Holman, who daily expects the arrival of his family from Victoria, is calling for tenders for a substantial dwelling-house for himself to be erected on the ground, and we have no doubt that other buildings will soon follow, and the camp will be transformed into a thriving township. We hope and believe that the Dee Mine will be a success, and will effectually redeem the character of the district as a field for mining enterprise.

N.B.—Mr. Morehead, when transmitting the foregoing newspaper article to the board, expresses his opinion that it is fairly and intelligently written, although in too eulogistic a tone. He states that he felt that he could not refuse the request of the representative of a respectable colonial newspaper to be allowed to see the property and give his own account of it.

HYDRAULIC GOLD MINES OF CALIFORNIA—CEDAR CREEK AND GOLD RUN COMPANIES.—A California contemporary says: The Cedar Creek Company, of London, under the superintendence of Col. T. B. Ludlum, is pushing its work with vigour in all its various departments. In the Yankee claim, the pioneer in this district to work to the bottom, the bed-rock cuts, which are so difficult and expensive to blast up while piping, are being extended up to the banks of gravel, and tunnels run thereunder, so that there may be no delay when washing commences. This action is considered by old miners as a very commendable foresight, and worthy of emulation. The Yankee tunnel under this claim is being extended towards the Badger claim, the late rains having furnished sufficient water to run the drilling machine. The Badger shaft to connect with the Yankee tunnel is being sunk with rapidity. The hoisting and pumping machinery is in position, and works smoothly. The Pacific, Jehoshaphat, and Central claims are about ready for washing. The various flumes and ditches are being repaired, and, in fact, every department connected with this company is rapidly being put in thorough working order in anticipation of an early winter. At Gold Run extensive preparations are also being made for washing the approaching season. The Cedar and Sherman claims are owned by the Gold Run Hydraulic Mining Company (Limited), of London, and superintended by Mr. J. A. Stone. These claims will commence this season to open to the bottom; a bed-rock tunnel has been run, sluices placed therein, and an incline raised to the surface. The superintendent is now engaged laying a string of iron pipe so as to take water from the Cedar Creek Company's ditch on the north-westerly side of Potato ravine. These claims will be ready for washing within a couple of weeks. The gravel is about 190 ft. in depth, and the opening of them to bed-rock will be watched with interest. It is no "boys' play" to open such claims through a shaft or incline; the gravel being so very deep, the progress downwards with a pit sufficient in size for working purposes must necessarily be slow. The Gold Run claim, owned jointly by the Cedar Creek Company and Miners' Ditch Company, is running a short bed-rock tunnel to reach a bank of original gravel lying high on the western rim. This claim will be ready to commence work by about Jan. 1.

MANUFACTURE OF SODA.—In the manufacture of soda from salt and carbonate of ammonia, according to the invention of Mr. A. A. SCHERBASCHEFF, of Charkow, Russia, a deep vessel is half filled with water or brine, and in this vessel are hung baskets or other porous receptacles containing salt in large fragments; the liquid is then warmed to about 140° Fahr., when similar receptacles containing carbonate of ammonia are also hung in the vessel, whereupon a reaction ensues, soda being precipitated in the form of a crystalline and almost insoluble powder, and sal-ammoniac remaining in solution. When the liquid in the vessel is a saturated solution of sal ammoniac, the porous receptacles are removed, and the liquid maintained for some time at from 140° to 160° Fahr. till all the soda is precipitated, whereupon the liquid is drawn off into crystallising vessels, and the soda is removed and dried, being washed to remove any sal-ammoniac that may be mingled with it. The sal-ammoniac is converted in the usual way into carbonate of ammonia, and used again. During the reaction a second vessel receives such ammonia and carbonic anhydride as may escape from the first, the liquid in which the gases are absorbed being employed in the next reaction.

IMPROVED PUMPS.—Inside a receiver, and working within it, there is, according to the invention of Mr. JOSEPH WALLACE, of Seaham Harbour, Durham, a hollow bottle-shaped barrel with cross-head having attached an outlet piece with holes; under the barrel is a suction pipe moving up and down over the holes inside, and also a clack valve or clack ball. A fixed plunger and rod passing through two glands in connection with the cross bar above named, and over which the barrel moves. For water purposes a fixed pipe is used, the moveable suction pipe working through bottom end of receiver and through a gland. For gases and atmospheric air alone, the moveable suction pipe without the fixed suction pipe is used.

TREATING SULPHUR ORES.—Mr. O. C. D. ROSS, of Craven-street, Strand, has invented an improved apparatus and means for obtaining sulphur-flour and other superior qualities of sulphur direct from the ore, and from spent oxide of iron, or Laming's mixture, and from other similar substances, after they have been used for the purification of gas; and also for distilling and purifying or refining crude sulphur and the impure sulphur which is recovered from alkali waste, or which is obtained in an impure state by other processes. The same apparatus may be used also for the distillation of bituminous minerals, and of such metals and metalloids as are obtained or purified by distillation. The apparatus preferred to be used mainly consists of very shallow vessels or plates placed in a furnace or oven one above the other, and the arrangement of the condensing apparatus is very similar.

SHALE RETORTS.—The invention of Mr. GEORGE BENNIE, of Glasgow, consists in the general construction and arrangement and combination of a set of two or more vertical retorts, for the distillation of shale or other bituminous or oleaginous substances for the production of oils or illuminating gas, and ranged in one heating furnace or chamber over a hinged grate or hearth so as to be heated wholly or partially by the residuary cinders discharged thereon from the retort. second; the construction and use of hollow open or perforated tubes in the centre of retorts, for assisting the escape of the gases as evolved from shale or other material being distilled therein. Third; the closing and opening of the lower lid or door of retorts for the distillation of shale or other bituminous or oleaginous substances, by a rod and lever within the retort quite below the ordinary charging lid, and a hand lever outside. Fourth; the construction and use of hinged grates or hearths for the discharge of the residuary waste materials from the heating chambers or furnaces of retorts for the distillation of shale or other bituminous or oleaginous substances.

BLASTING POWDER.—Some improvements in the preparation of gunpowder charges for blasting have been invented by Mr. HERMANN MULLER, of Clermont, Belgium. He forms gunpowder cake into rings or pieces of a circular, square, hexagonal, or other suitable shape, the said rings having each a hole through the middle to string a series of them upon a match or fuze. They may have plain or convex surfaces with or without grooves, ribs, projections, or angular parts upon them, and one or more holes or depressions made in them, and their external peripheries may be ribbed.

BAKER'S ROTARY PRESSURE BLOWER.

BAKER'S ROTARY PRESSURE BLOWER.

In accordance with the statement made in the Journal of Aug. 7, under the heading of "Visits to the Manchester Exhibitions," we now come to the description and working action of Baker's Rotary Pressure Blower, referring the reader for other particulars to the preceding notice we gave of the machine in these columns.

Fig. 1.

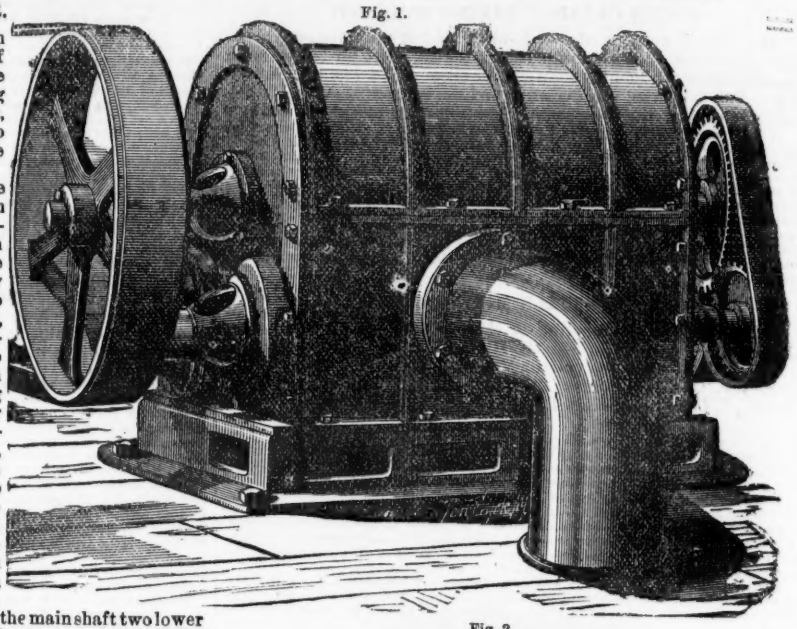
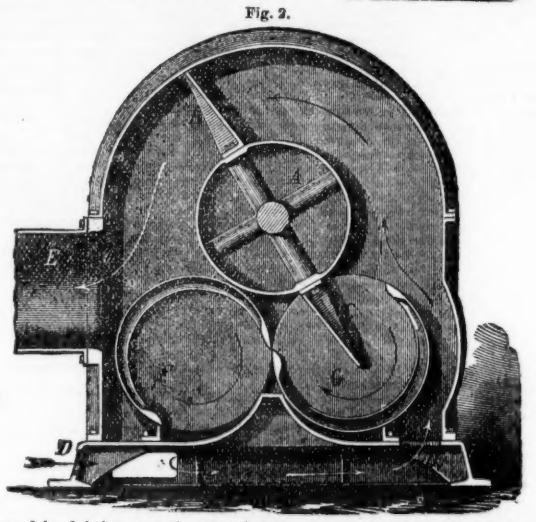


Fig. 1 shows a perspective view of the blower, and Fig. 2 gives a transverse section through the middle. This blower as illustrated is driven by strap and pulley, although it can be directly attached to a steam-engine if so desired. This driving or main pulley is made with a diameter sufficiently large to give the belt or strap a good running speed, and is also of a corresponding breadth to ensure a firm grip, so giving off more power to the blower. The main shaft runs through the casing of the machine, and has the driving pulley attached to one end, while at its other extremity a gearing wheel is also fixed outside the casing. Within this external casing, and mounted on the before-mentioned main shaft is a cylinder (marked A in Fig. 2) made of one iron casting. To this cylinder two cast-iron vanes or wings, B, C, are bolted firmly exactly opposite to each other, or at 180° apart. The vanes of this central drum are faced off, and cast in the requisite form to ensure the greatest strength in proportion to their weight. On separate parallel shafts to the main shaft two lower cast-iron drums, F and G, are mounted, which are slotted their entire length, to allow the before-mentioned vanes to pass and play in the interior; but to ensure perfect freedom of action, as well as to remove all danger of the wings coming in contact with the metal of these lower drums when entering or leaving them, these openings or slots are made considerably wider than would be necessary for the mere passage of the wings. The shafts of these lower drums, F and G, are also each provided with one cog-wheel of equal diameter, which latter gear direct into the forementioned gearing-wheel of the main shaft, which is double the diameter of the former wheels. To prevent any accidents from entanglement with this gearing, all three wheels are cased up by a shield, as shown in Fig. 1. The object of this gearing, as may be easily conjectured, is merely to keep the lower drums in their proper positions for the satisfactory working of the vanes. The journals and bearings of the shafts are made extra large, to secure as large a bearing surface as possible, and all the three drums or cylinders are turned true and balanced, thus ensuring closeness and at the same time steadiness when running.

Fig. 2.



The external casing of the blower consists of a cylindrical iron portion, bored and faced at its ends, and bolted on to the sides, the latter being also faced off true. In order to be able to remove the casing and return it to its proper position without much trouble or delay the ends are doweled when in exact position. To the side of the external casing the discharge pipe, E (Fig. 2), is attached. The base-plate forms also one cast-iron piece, faced on its upper side, and bolted firmly to the machine casing. This bed-plate, cast as shown in section in Fig. 2, also affords inlet to the air by the passages, D, D, and to prevent anything from entering that might cause injury to the internal movements of the blower, a wire guard or screen is attached to the inlet.

From the preceding description and the illustrations it follows that since the semi-circular space above the central drum forms a section of a ring concentric to the latter, with the wings of the drum revolving at one uniform speed inside, the air expelled must be in a nearly continuous stream. Again, since each drum only acts as abutments alternately, the power required to drive them is little more than the power required to overcome the friction of the journals.

With these preceding remarks we may proceed to the working action of the present rotary blower. The main shaft revolving in opposite direction to the fingers of a watch carries with it the central drum, A, and vanes, B and C, in the direction shown by the topmost arrow of Fig. 2. At the same time, the drums, F and G, are revolving in opposite direction to drum A, and at a double speed. In the position of the vane, B, in Fig. 2, it will be seen that it is engaged in driving out the air of the upper casing into the discharge pipe. This current of air is prevented from returning to the inlet by the cylinder F, since the position of the latter is close against the cylinder A, and it also meets the abutments formed on the bottom. It will further be seen on referring to Fig. 2 that at the same time the wing, C, has entered the drum, G, by the slot. By the double speed and the contrary directions of the lower drums, F and G, as shown by the arrows placed within them in Fig. 2, it becomes apparent that whatever the position of the vanes may be, one or both will close the communication between inlet and outlet. The position of the slots will also remain so placed to the vanes that the latter may in due course enter and pursue their uninterrupted rotary path.

In our previous notice of this rotary blower we have already referred to a successful competitive trial which took place between the present and the well-known Root's blower, at the hands of the committee of the Franklin Institute Exhibition in Philadelphia.

ARTESIAN BORINGS,

For WATER SUPPLY to TOWNS, LAND IRRIGATION, and MINERAL EXPLORATIONS, may be executed of any diameter, from 6 in. to 36 in., and to any depth to 2000 ft.,

Pistons & Air-pump Buckets fitted with Patent Elastic Metallic Packing

of which upwards of 8684 have been made to March, 1875.

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MAKERS OF LARGE PUMPS AND PUMPING ENGINES.

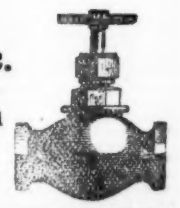
Improved Valves and Taps for Water, Steam, Gas, &c.

PATENT STEAM EARTH-BORING MACHINE

ENGINEERS and MACHINE MAKERS to CALICO PRINTERS, BLEACHERS, DYERS, and FINISHERS.

SALFORD IRONWORKS, MANCHESTER.

PRICES AND PARTICULARS ON APPLICATION.



Coal-Getting by Patent Hand-Worked Machinery,

WITHOUT THE USE OF GUNPOWDER.

No. 1 MACHINE - THE HAND COAL-CUTTER, for under-cutting.
2 ,, - THE ROCK & COAL PERFORATOR, for drilling.
3 ,, - THE SCREW WEDGE, for breaking down.

The use of these Machines, while doing away with the greatest source of danger, economises at least Fifty per cent. of the labour required in Getting Coal.

Particulars on application to—

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BLAKE'S PATENT STEAM PUMP.

MORE THAN 8000 IN USE.

SOLE MAKERS FOR GREAT BRITAIN,

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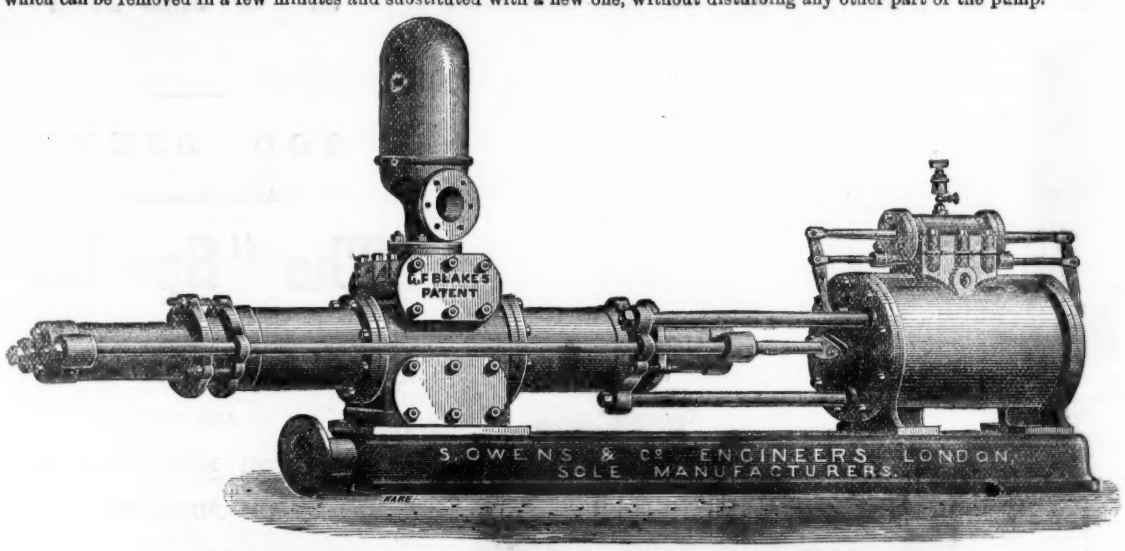
Hydraulic and General Engineers, Whitefriars-street, London; And at 195, Buchanan-street, Glasgow (W. HUME, AGENT).

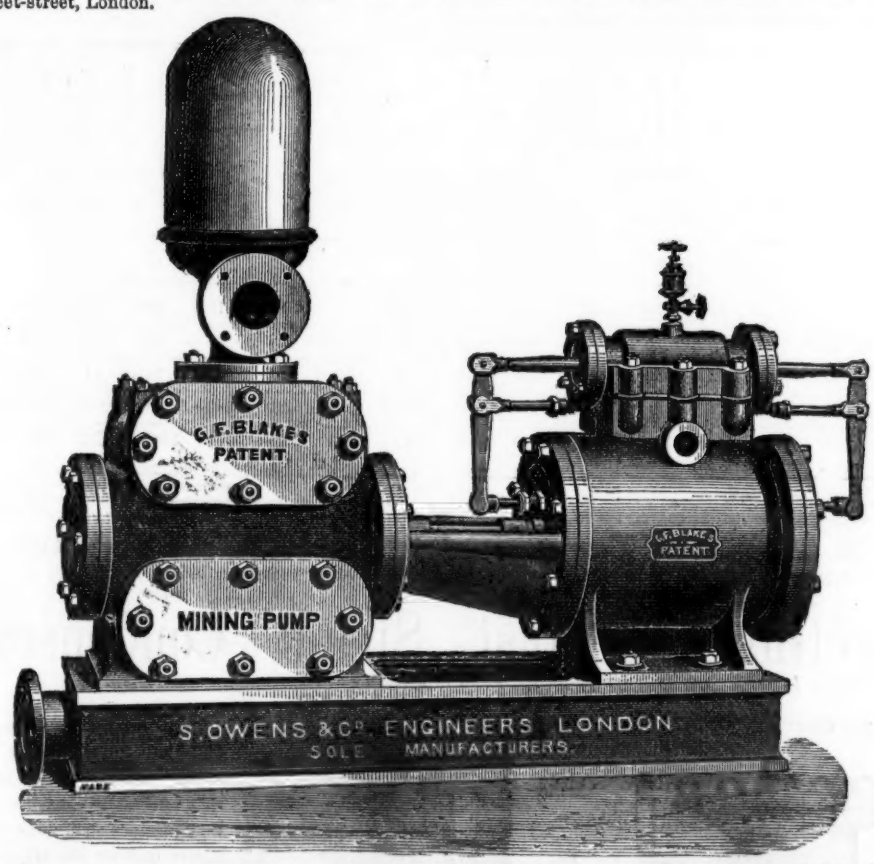
These PUMPS from their SIMPLICITY, RELIABILITY, DURABILITY, and ECONOMY are SPECIALLY SUITED FOR MINING PURPOSES, where large quantities of water require to be raised from great or medium depths with CERTAINTY. They are double-action in their construction, throwing a constant stream of water, can be made of any stroke to suit the space in which they have to work, can be arranged with any combination of steam and water cylinders to suit the pressure and lift against which it is desired to work them, are made of the very best materials and highest class of workmanship, and all working parts can be readily got at by any ordinary workman, and replaced if necessary by a duplicate part (all such being interchangeable) in the shortest possible time. For situations where gritty and sandy water has to be pumped the DOUBLE PLUNGER PATTERN is recommended. Where space is limited the PISTON PUMP is better suited, a novel feature of which is the PATENT REMOVEABLE LINING, which can be removed in a few minutes and substituted with a new one, without disturbing any other part of the pump.



Blake's Improved Double-plunger Steam Pump.

S. OWENS AND CO.,

In placing the BLAKE STEAM PUMP before the mining world, believe they are offering the BEST, MOST RELIABLE, and ECONOMICAL PUMP that has yet been made, and solicit an inspection of various sizes in operation at their works, Whitefriars-street, Fleet-street, London.



Blake's Improved Mining Pump, with Patent Removeable Lining to Pump Cylinder,

Any combination of these Pumps may be had to suit circumstances. The following are some of the SIZES SUITABLE FOR MINING PURPOSES:—

Dia. of steam cylinders.. In.	12	12	12	12	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	24	24
Dia. of water cylinders.. In.	3	4	5	6	4	5	6	4	5	6	8	4	5	6	8	5	7	8	9	6	8
Length of stroke ..... In.	18	18	18	24	24	24	24	24	24	24	24	24	30	30	30	30	30	36	36	36	42
No. of strokes per minute..	30	30	30	30	25	25	25	22	22	22	22	22	22	22	22	20	20	17	17	17	15
Quantity in gallons per hour, approxmately ...	1440	2610	4200	5940	2940	4620	6600	2646	4158	5940	10620	2646	5160	7500	13260	4586	9000	12360	15660	6720	12000

PRICES FOR THE ABOVE, OR ANY SPECIAL SIZE, AND ILLUSTRATED CATALOGUES FURNISHED ON APPLICATION

PATENT CONDENSORS

Can be supplied for any size pump to effect a saving of fully 30 per cent. in the consumption of fuel, greatly increasing their efficiency.

The Blake Pump will work under water, and as efficiently with compressed air as with steam.

BLAKE'S DONKEY PUMPS FOR FEEDING BOILERS KEPT IN STOCK.

WARSOP AND HILL,

HYDRAULIC AND GENERAL ENGINEERS.

SPECIALITIES.

PATENT PORTABLE POWER ROCK DRILLS.

IMPROVED

AIR COMPRESSORS AND STEAM ENGINES.

MINERS' PICKS, with interchangeable Steel Points.
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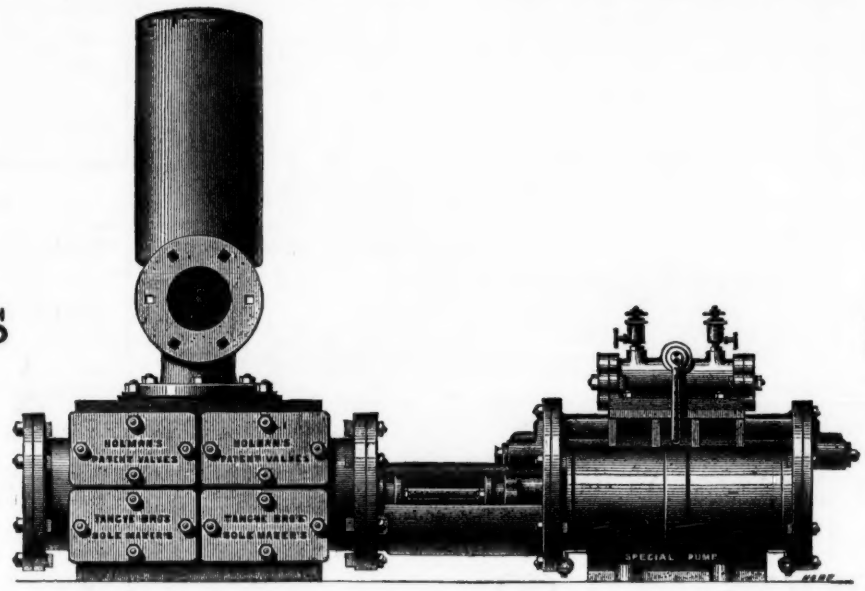

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Length of Stroke .....In.	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,519	5070	7330
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CONTINUED.

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Length of Stroke .....In.	12	18	24	24	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000	40,000
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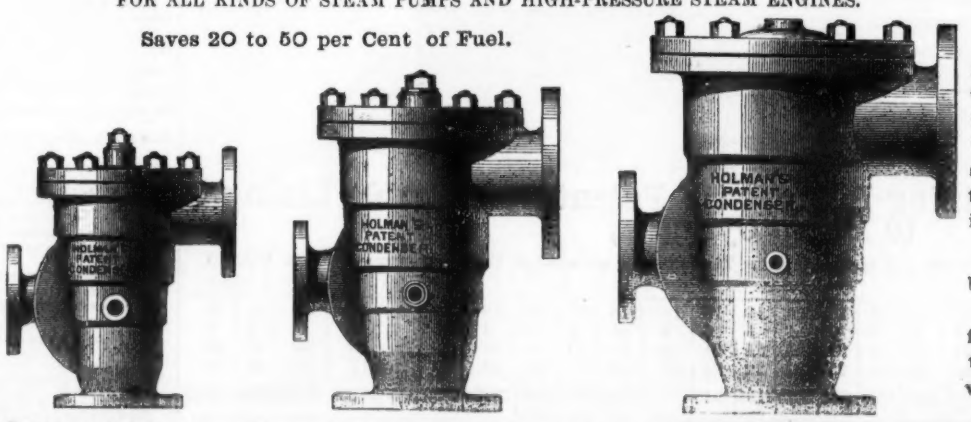

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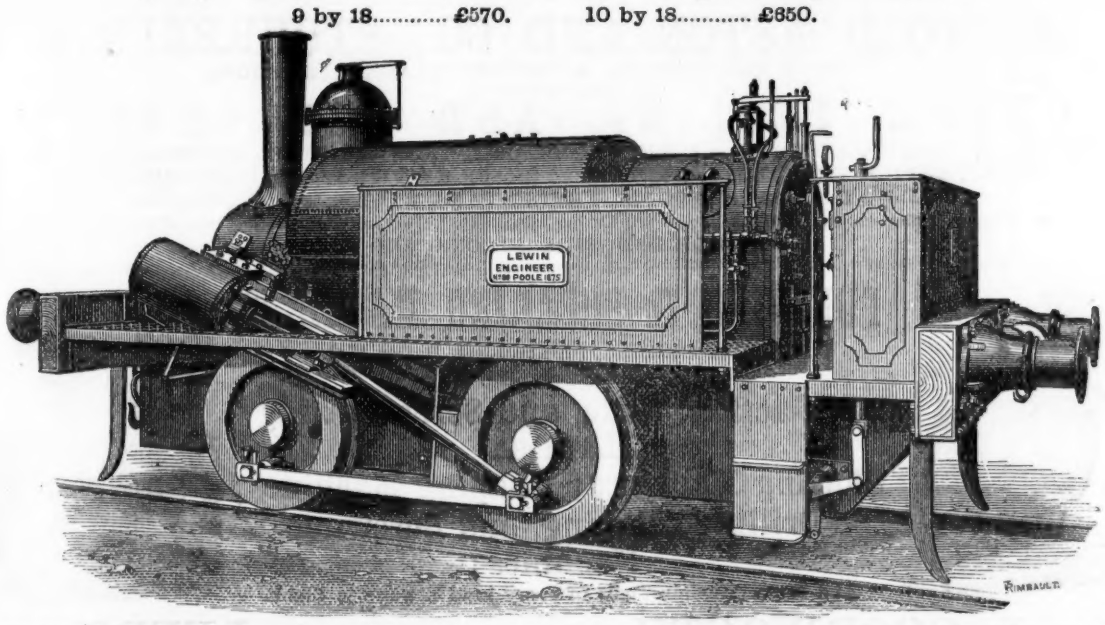

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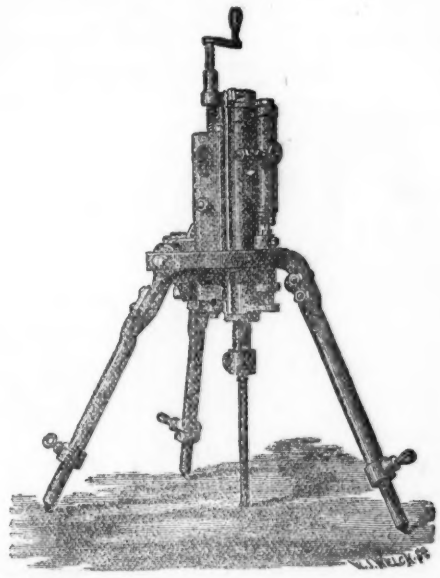

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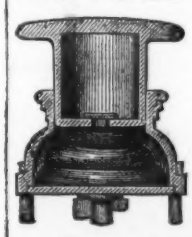

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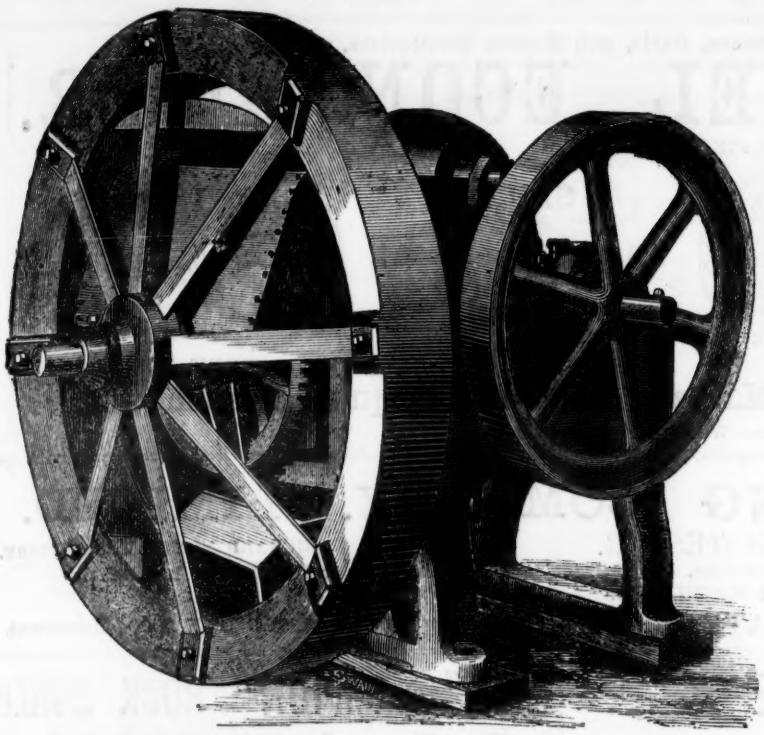

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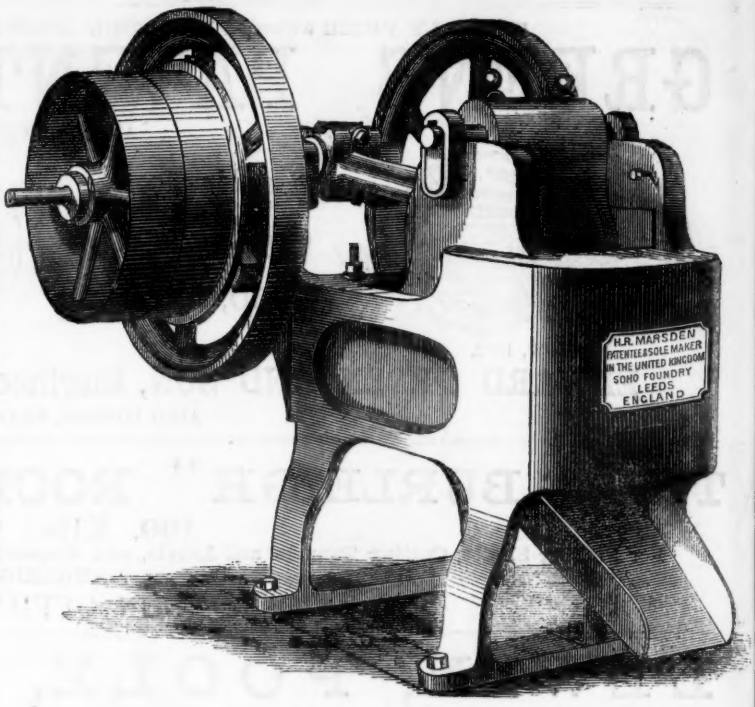

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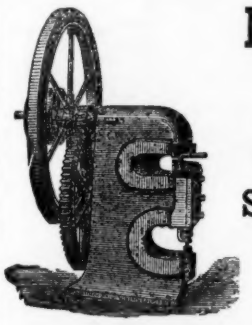

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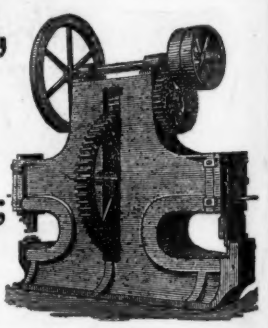

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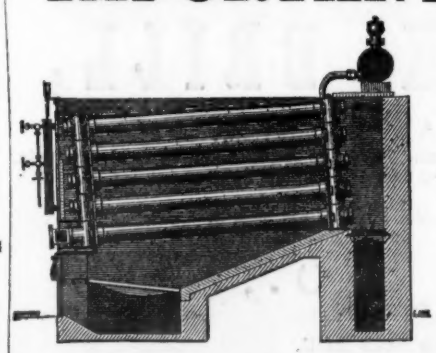

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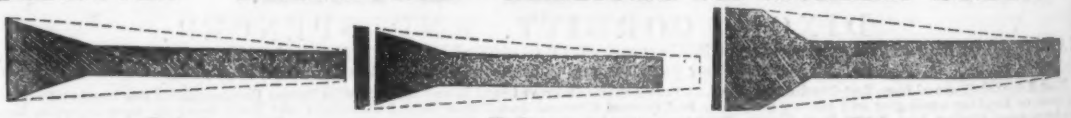

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